

# VALLEY OF DEATH

EXCERPT



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Andrew S. Grove, born September 2, 1936, has been with Intel since the company was founded in 1968. Currently, his role is Senior Advisor to Intel's executive management.

Excerpt of Richard S. Tedlow's *Andy Grove: The Life and Times of an American*—Chapter 10

**Gordon Moore has a small wooden plaque** that had etched on it: “This is a profit-making organization. That’s the way we intended it... And that’s the way it is!”

It certainly did not look that way in 1986 with the loss of \$173 million. With the benefit of hindsight, we know that Intel pulled out of this dive dramatically in 1987. Sales soared 51 percent to \$1.9 billion. The profit picture was equally exciting, hitting a record \$248 million. Market capitalization increased by almost \$2 billion to \$3.328 billion. In 1987, Intel placed 200 on the Fortune 500, higher than ever before. We know today that Intel reached the precipice in 1986 but was able to leap it and continue its climb the following year. No one was arguing with Moore’s sign displayed in 1987.

Life, however, is not lived in hindsight. What if the collapse of 1986 had continued into 1987? If the company experienced another 7.3 percent decline in sales, they would have dropped to \$1.172 billion, well below the level of 1984. If the company’s losses had continued at the 1986 rate, it would have been close to \$350 million in the red, losing almost a million dollars a day. Its market capitalization would have fallen to \$1.767 billion. Intel’s situation would have been dire.

Grove has cautioned against drawing sharp distinctions between “management” and “leadership.” One hears arguments in the academic world about management being “transactional.” Management concerns itself with the myriad activities that, when undertaken effectively, keep the corporation running and increasing its profitability.

Leadership, one can argue, is “transformational.” The leader drives the company in a whole new direction. The leader is charismatic

and inspirational. His or her impact helps people exceed their own expectations of themselves.

The problem with these definitions is that, in Grove’s words, “there is an implicit value judgment that suggests that leadership is better than management. In reality, you need both capabilities.” Grove believes that “the same person should be able to do transactional jobs when those are needed and transformational jobs when those are needed... A tennis player has both a forehand and a backhand. Not all tennis players are equally good at both, but we don’t talk about backhand players and forehand players.”

True. Indeed, if anything, Grove’s career indicates a bias toward management and a skepticism that borders on the acute when it comes to leadership, especially charismatic leadership. He and others in the company were proud when *Dun’s Review* named Intel one of the “five best-managed” companies in the United States. There is no similar survey on the “five best-led” American companies.

Grove’s efforts, more than anyone else’s, put Intel deservedly on that list. John Doerr said that Grove made Intel the best-managed technology company in the world. The semiconductor industry had historically been plagued by poor management. Grove was determined to see Intel break that mold. Remember that Grove’s first full-time experience in a corporation was at Fairchild Semiconductor from 1963 to 1968. If ever a company was “over-led” and “under-managed,” it was Fairchild. Grove blamed Noyce, the perfect example of a charismatic leader, for that state of affairs.

If people were going to say nasty things about him because of his Late List and other such devices to instill discipline at Intel, Grove could not have cared less. He did not need the

affection of Intel's workforce. What he needed, what he demanded, was that Intel's employees manage their work lives rigorously.

Grove's first book not on a technical topic, *High Output Management*, is all about management, not leadership. The book makes reference to "leadership" only in passing. The words, "charisma," "transformation," and even "strategy" do not appear in the index. The first two chapters concern themselves with running a restaurant called "Andy's Better Breakfasts." The chapter titles are "The Basics of Production: Delivering a Breakfast (or a College Graduate, or a Compiler, or a Convicted Criminal...)" and "Managing the Breakfast Factory." He did not have a chapter on "Leading the Breakfast Factory" or "Transforming Andy's Better Breakfasts into Chez Panisse."

Even conceding these points, the fact is that in 1986, Grove acted as a "leader," if that word has any meaning. What did Grove do? To make a long story short, he presided over the creation of a new product line for Intel. Under his leadership—his management also, but preeminently his leadership—Intel exited the memory business and became a microprocessor company. Or, as he put it, "The most significant thing was the transformation of the

company from a broadly positioned, across-the-board semiconductor supplier that did OK to a highly focused, highly tuned producer of microprocessors, which did better than OK."

Two beliefs that Grove said were "as strong as religious dogmas" made it more difficult than it otherwise would have been to get out of a product [memory] that any objective outsider could see was a loser for Intel. One of

these "dogmas" was that memory was Intel's "technology driver." Because memory devices were easier to test than other Intel products, they were traditionally the products that were debugged first. The lessons learned could then be applied to other products. Intel's identity was rooted in its excellence in technology. In its industry, technology and testosterone were linked. Real men live on the technological edge.

The second dogma dealt with marketing. Intel owed it to its customers and therefore its salesforce to field a full line of products. The customers demanded one-stop shopping, and if

Intel could not provide that service, its customers might defect to someone else who would.

At one point in mid-1985, after a year of "aimless wandering," Grove said to Moore, "If we got kicked out and the board brought in a new CEO, what do you think he would do?" Moore immediately replied, "He would get us out of memories." "I stared at him, numb, then said, 'Why shouldn't you and I walk out the door, come back, and do it ourselves?'"

This was a real moment of truth in the history of Intel, and it should be part of every management course at our business schools. Grove was able, by self-creating new management, to adopt a different frame for his decision making. He was no longer the actor. Now he was the audience. The audience was so displeased with the actor that it would give him the "hook" if it could. He was no longer the subject. He was the object. He got outside himself and looked at the situation as a fantasized, rational actor would.

This was a cognitive tour de force. It was made possible by Grove's capacity to frame issues differently from the way others do.

Grove said that even after this moment of clarity, effective action was inhibited by the intensity of emotion around this product and around the thought that Intel had been beaten at its own game. When he started talking about jettisoning memories, "I had a hard time getting the words out of my mouth without equivocation."

How do you get something like this done? Once you know that you have got to get rid of a product, how do you implement the decision? When I started teaching at the Harvard Business School more than a quarter of a century ago, a businessman said to me that if you are going to cut off a dog's tail, it is best to cut it right at the torso rather than half an inch at a time. The observation struck me as quite uncalled-for and even sadistic. We were talking about business, not mutilation of animals. The point he was dramatically making was that if you have a tough decision, you should implement it cleanly, completely, and without hesitation. The pain will only be greater if you move in stages.

Intel moved in stages, as if its executives were working their way through a trance. At one point, Grove, to his own amazement, allowed another executive to persuade him "to continue to do R&D for a [memory] product that he and I both knew we had no plans to sell."

At last, at long last, Intel got out of the

memory business. It had taken three years. A decade later, Grove recalled that the mechanics of getting out of that business were "very hard." It was a "year-and-a-half-long process of shutting down factories, letting people go, telling customers we are no longer in the business, and facing the employees who all grew up in the memory business, who all prided themselves on their skills and those skills were no longer appropriate for the direction that we were going to take with microprocessors." The wounds remained always fresh for Grove. No matter what success Intel achieved, he never ceased to believe that what had happened before could happen again.

Lessons learned? For Grove, the whole memory episode reinforced in his mind the importance of middle management. "While [top] management was kept from responding by beliefs that were shaped by our earlier success, our production planners and financial analysts dealt with allocations and numbers in an objective world." So it was simply vital to have the ranks of middle management populated by top-flight executives and then to pay careful heed to what they say and do.

Second, in Grove's words, "It is always easier to start something than to kill something." Therefore, you better be careful about what you start. That is, however, another example of a lesson that may have been learned too well. With the triumphant exception of microprocessors in personal computers, Intel has not set the world on fire introducing new products into new markets.

Third, when your failure has been of the noble variety rather than the result of stupid mistakes, you as the top manager have to figure out a way to keep the talent that was involved in that unavoidable failure in the company. The DRAM technology development group was unquestionably highly talented. "The DRAM TD group led the company in linewidth reduction. They were already developing a 1-micron process while the logic group was still developing a 1.5-micron process. Sunlin Chou and his group were widely regarded as Intel's best resource for process development." Grove had hired Sunlin Chou at Fairchild in 1964 and always held him in particularly high regard.

What is called for in situations like this can legitimately be denominated as something more than management. What is called for is leadership. "So I went up to Oregon," Grove tells us. Oregon was the headquarters of the DRAM team. The team was worried about its

future, not without reason.

Grove gathered them into an auditorium and delivered a speech whose theme was "Welcome to the mainstream." Intel was making the transition from a memory company to a microprocessor company. In fact, the transition had



In Intel's beginning, Gordon Moore and Robert Noyce used the name NM Electronics before deciding on the name Integrated Electronics or "Intel" for short.

already been made for Intel by marketplace realities. Although this group had not been involved in microprocessors, there was plenty of room for them, and the company would do what it could to help them make the contribution Grove knew they could.

The speech "actually went a lot better than I had expected." Grove's audience, knowledgeable people below the ranks of top management, had seen the handwriting on the wall and wanted some resolution of the situation. Thus Grove narrates this story as one in which "the CEO is the last to know" what others inside and outside the company had already figured out. Perhaps. However, that would not be the case as Intel moved self-consciously forward as a microprocessor company. ○

For Andy Grove's other valuable lessons learned, please refer to Richard S. Tedlow's book *Andy Grove: The Life and Times of an American*.

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