The Idea Factory: Bell Labs And The Great Age Of American Innovation





Synopsis

From its beginnings in the 1920s until its demise in the 1980s, Bell Labs-officially, the research and development wing of AT&T-was the biggest, and arguably the best, laboratory for new ideas in the world. From the transistor to the laser, from digital communications to cellular telephony, it's hard to find an aspect of modern life that hasn't been touched by Bell Labs. In The Idea Factory, Jon Gertner traces the origins of some of the twentieth century's most important inventions and delivers a riveting and heretofore untold chapter of American history. At its heart this is a story about the life and work of a small group of brilliant and eccentric men-Mervin Kelly, Bill Shockley, Claude Shannon, John Pierce, and Bill Baker-who spent their careers at Bell Labs. Today, when the drive to invent has become a mantra, Bell Labs offers us a way to enrich our understanding of the challenges and solutions to technological innovation. Here, after all, was where the foundational ideas on the management of innovation were born.

Book Information

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Customer Reviews

During its fifty odd years of existence, Bell Labs was the most productive scientific laboratory on the planet. It won seven Nobel Prizes, contributed innumerable practical ideas underlying our modern way of life and, whether by accident or design, also managed to make some spectacular basic scientific discoveries that expanded our understanding of the universe. How did it possibly accomplish all this? In this authoritative and intensely engaging book, Jon Gertner tells us exactly how.Gertner's book about this great American institution excels in three ways. Firstly, it describes in detail the genesis of what was then an unlikely research institution. Until then most communication related work was considered to be squarely within the domain of engineering. Bell Labs arose from a need to improve communications technology pioneered by its parent organization AT&T. But the real stroke of genius was to realize the value that basic scientists - mainly physicists and chemists could bring to this endeavor along with engineers. This was largely the vision of two men - Frank Jewett and Mervin Kelly. Jewett who was the first president of Bell Labs had the foresight to recruit promising young physicists who were proteges of his friend Robert Millikan, a Nobel Prize winning physicist and president of Caltech. Kelly in turn was Millikan's student and was probably the most important person in the history of the laboratory. It was Kelly who hired the first brilliant breed of physicists and engineers including William Shockley, Walter Brittain, Jim Fisk and Charles Townes and who would set the agenda for future famous discoveries. During World War II Bell gained a reputation for taking on challenging military projects like radar; at the end of the war it handled almost a thousand of these.

The Idea Factory is a well written presentation of what happened in Bell Laboratories in its early and middle lifetime. The author has captured the view from within the Lab and has presented a history that is in many ways presented in a manner in which the Lab people would have wanted it presented. His conclusions however are subject to significant debate, if not being downright wrong.I write this review also having heard the author present his work in Madison, NJ to an audience almost totally filled with hundreds of former Labs staff and also as one who spent a great deal of time at the Labs from 1964 through 1972, while going back and forth to MIT, plus over fifty years in the industry.The author presents the often told tales of Shockley and the transistor, Shannon and information theory, as well as all the management types who formed, directed, and molded the Lab like Kelley and others. Many of these people I knew firsthand and as any observer the view is all too often colored by one's position at the time.The driving presumption of the author is best stated in his introduction where he says:"Some contemporary thinkers would lead us to believe that twenty-first century innovation can only be accomplished by small groups of nimble profit seeking entrepreneurs

working amid the frenzy of market competition. Those idea factories of the past, and perhaps their most gifted employees, have no lessons for those of us enmeshed in today's complex world. This is too simplistic. To consider what occurred at Bell Labs, to glimpse the inner workings of its invisible and now vanished "production lines" is to consider the possibilities of what large human organizations might accomplish.

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