# Entrepreneurship and Economic Progress

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**And**
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**Inaugurating**
**The Hollerith Lecture Series at Blair Academy**
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Good evening. It is both a privilege and a thrill to deliver this first address in the Hollerith Lecture Series at Blair Academy. The series is named in honor of Dr. Herman Hollerith (1860-1921), whose 1884 invention of a tabulating machine system based on punching holes in a paper tape and recording data electronically—the precursor to the digital world that we all take completely for granted today—was recently described by London's *Economist* magazine as one of the ten most important scientific events of the past millennium. We are deeply indebted to his grandson, Richard Hollerith Jr., father of Susan Hollerith Cashin, Blair '85, for his interest in this lecture series, exposing Blair students and the Blairstown community to the ideas of entrepreneurs and business leaders.

It's a wonderful coincidence that this inaugural lecture is being given here in the Armstrong-Hipkins Center for the Arts, for this building bears the name of my great-grandfather Philander Banister Armstrong (1847-1928), not only an almost exact contemporary of Herman Hollerith (1860-1921), but, like him, a remarkable American entrepreneur of that era. Grandpa Armstrong, as even my generation refers to him, undertook his innovations in the insurance field. According to his biography, he organized five insurance companies, all based on the concept of "*mutuality* in the offering of financial services . . . (using) methods that are original and dramatically opposed to almost every recognized financial firm . . . dealing *directly* with the client without the intervention of agents or brokers . . . (While) severely criticized by his opponents, his methods, accompanied by his boldness often amounting to audacity, have achieved success and approval by the public." He climaxed his career by writing, in 1917, *A License to Steal* (subtitled "Life Insurance, The Swindle of Swindles"), a book that challenged the life insurance industry—"a good thing gone wrong"—to reform.

Dr. Hollerith's entrepreneurial talents were focused on mechanical devices that would vastly improve and supply the then-tedious process of tabulating hundreds of millions of bits of data, earning him the title "the first statistical engineer." Grandpa Armstrong's entrepreneurial talents, on the other hand, were focused on a *mutual* corporate structure that would improve the terms under which financial services would be offered to the public, arguing that "life insurance has become one of the necessities of modern civilization, and it should be furnished *at cost*." But both men apparently shared these characteristics: A willingness to open their eyes to the unconventional and the innovative, and an ability to look at fields in which they plied their trades and say, in effect, "I can add to economic progress and make our world better." And so they did. This evening, as the spirits of these two contemporaries and fellow entrepreneurs meet in this hall, I hope that they are looking each other in the eye, shaking hands, and simultaneously saying, "well done!"

## Schumpeter's Theory of Economic Development

When these entrepreneurs did their work, the word "entrepreneur" had not yet come into its present use: "A person who undertakes and organizes an enterprise, often with considerable initiative and risk." (The word originally meant, "a director of a public musical institution.") The man who popularized today's definition was their near-contemporary, Joseph A. Schumpeter (1883-1950), who in his *The Theory of Economic Development* in 1911 first recognized the entrepreneur as the moving force in economic progress. Interestingly—and importantly—Schumpeter dismissed material and monetary gain as the prime mover of the entrepreneur, concluding that these three motives were far more powerful:

(1) "The dream or the will to found a private kingdom.
(2) "The will ton conquer, the impulse to fight . . . to succeed for the sake, not of the fruits of success, but of success itself.
(3) "The joy of creating, getting things done, and simply exercising one's energy and ingenuity."

That definition rings true to me, and I suspect it could also be applied to both Dr. Hollerith and Mr. Armstrong, who—despite the vast difference in the fields in which they chose to apply their energy and ingenuity—were like all entrepreneurs: At once inventors, pioneers, salesmen, businessmen, company founders, and persons of strong character.

Tonight, more than a century after the acute insights of the legendary Hollerith and the iconoclast Armstrong, it is my privilege to talk a bit about entrepreneurship in the modern era, using as my example about the creation and building of an organization that owes its very existence to the kind of entrepreneurial of spirit reflected in Schumpeter's shrewd insights. I'm speaking, of course, of The Vanguard Group, the company I founded nearly 28 years ago.

## From Blair to Vanguard: The Long and Winding Road

In many respects, the foundation of Vanguard was laid right here at Blair Academy 57 years ago, almost to the day. On April 9, 1945, I was accepted at this splendid place as a member of the Class of 1947. Not only admitted, but given a scholarship and a job (as waiter, and later as captain of the waiters), without which neither I nor my brothers (David, '47, and William '45) could possible have attended. We'd previously attended a small rural high school at the New Jersey shore, but our parents and grandparents had higher aspirations for our education.

While Blair was a great leap forward in our lives, the academic demands were large and the transition painful. But the outcome was commensurately rewarding. I started with a miserable grade of 40 in Jesse Witherspoon Gage's Algebra class, but my final grade of 100 was then thought to be the only perfect score he had ever awarded. And in Marvin Garfield Mason's English class, this demanding master drummed into me an inspirational sentence from Macaulay's essay on Samuel Johnson that I have never forgotten: "The force of his mind overcame his every impediment."

Blair represented not only an important step in my intellectual life, but a character-building step as well. I thrived among wonderful classmates and the vigorous discipline of the school, graduating second in my class, and voted "Best Student" and "Most Likely to Succeed," accolades which both offered a hint of the determination that I still can't seem to shake, but also, perhaps, a harbinger of the entrepreneurial spirit that would later shape my career.

Blair, too, was the springboard that launched me into Princeton University. No Blair, no Princeton. It *is* as simple as that. And it was at Princeton that I had yet another of the marvelous strokes

of good fortune (literally!) that had so often punctuated my life. In December 1949, while researching topics for my senior thesis, I stumbled upon an article in *Fortune* magazine entitled "Big Money in Boston," and discovered the mutual fund industry. When I read that "mutual funds may look like pretty small change" but constituted a "rapidly expanding and somewhat contentious industry that could be of great potential significance to U.S. business," I knew immediately that I had found my topic. After a year-plus of intense study, I completed the thesis and sent it to several industry leaders, including Walter L. Morgan, industry pioneer and founder of Philadelphia's Wellington Fund. He liked what I had written and was later to write: "A pretty good piece of work for a fellow in college without any practical experience in business life. Largely as a result of this thesis, we have added Mr. Bogle to our Wellington organization." I started my new job right after my graduation in 1951.

Following the depression years of the 1930s, few young men had entered the investment field, and far fewer were employed in the then-tiny mutual fund industry, its total assets of just $2½ billion a pale shadow of today's $7 *trillion* megalith. When I joined Wellington Management Company, which managed Wellington Fund, it too was tiny. I moved up rapidly; in less than a decade, I had become Walter Morgan's heir-apparent. By the early 1960s, I was deeply involved in all aspects of the business, and, in early 1965, when I was just 35 years old, he told me that I would be his successor. The company was in troubled straits, and Mr. Morgan told me to "do whatever it takes" to solve our investment management problems. I realized that a great opportunity had been presented to me.

## A Merger and a Firing

Headstrong, impulsive, and naïve, I found, in Boston, a merger partner that I hoped would provide the solution. We merged our firm with theirs in 1966. Alas, despite the early glitter, the substance proved illusory. The merger worked beautifully for about five years, but the aggressive investment managers whom I had too opportunistically sought as my new partners let our fund shareholders down. First, our funds lagged as the stock market continued to rise through 1972; then, they led the market downward in the devastating 50 percent drop that followed. The fund assets we managed plunged by half from $2.5 billion in early 1973 to $1.3 billion in late 1974. Not surprisingly, my new partners and I had a falling out.

But my adversaries had more votes on the Company Board that I did, and it was *they* who fired *me* from what I had considered "my" company. The merger—perhaps the first evidence of my entrepreneurial spirit—was a failure. But my failure was not in getting fired, but in jumping on the speculative bandwagon of aggressive investing in the first place. In retrospect, this failing was little short of disgraceful, and I can only be embarrassed about the fact that my determination to move quickly, my naivete, and my eagerness to ignore the clear lessons of history led me into such an error of judgment. Life was fair, however: I made a big error and I paid a high price.

After their victory, my former partners intended to move all of the Wellington organization to Boston. But I wasn't about to let that happen. I intended to keep Wellington Fund in Philadelphia, where it was formed, where its roots had taken hold, and where it belonged. And I had an idea of how to do just that. For when the door slammed, a window opened. It gave me a *second* chance to exercise my entrepreneurial spirit. My idea was to parlay a slight difference in the governance structure of the Wellington *funds*, owned by their own shareholders, and Wellington *Management Company*, controlled by my former partners, into a new career that held the promise of changing the very structure under which mutual funds operated. Pulling off this trick would not be easy. Doing a deed without precedent never is.

## The Source of the Idea

The idea of creating a new and better form of mutual fund structure may well have had its genesis in that Princeton senior thesis of a quarter-century earlier. I had concluded the thesis with several major themes: The industry's future growth could be maximized by a "reduction of sales loads and management fees;" the principal function of a mutual fund should be sound management (not peripheral activities), that funds should refrain from making "excessive claims of management ability;" and that "the prime responsibility of mutual funds must always be their shareholders . . . to serve them in the most efficient, honest, and economical way possible." Simply stated, my idea was that the mutual fund industry would do better for itself if it did better for its shareholders. That simple concept of giving the investor a fair shake was the rock on which Vanguard would be founded a quarter-century later.

But how could that goal be accomplished? Again, with the essence of simplicity. Why should our mutual funds retain an *outside company* to manage their affairs—then, and now, the *modus operandi* of our industry—when the funds could manage *themselves* and save a small fortune in fees? Our mutual funds would, uniquely, be truly *mutual*. They would be run, not in the interest of an external adviser—a business whose goal was to earn the highest possible profit for *itself*—but for their own shareholder/owners. The battle was hard—the Fund Board was almost evenly divided—but this new structure finally carried the day.

## Steps and Stumbles

To operate under the new structure, we needed to form a new company, and I struggled to find just the right name for it. Just as lightning had struck in the form of an article in *Fortune* in 1949, so it struck again in 1974 in an antique book, *The Naval Achievements of Great Britain—1789-1817.* When I bought some old naval prints for my office, quite by accident, the book fell into my hands. One of its chapters described the great British victory over Napoleon's fleet at the Battle of the Nile in 1798. There, I read Lord Nelson's inspirational congratulatory dispatch to his crew, signed on the deck of his flagship, *HMS Vanguard*, and I knew immediately that I had found my company's name.[1] Under a formal banner inscribed "The Vanguard Group of Investment Companies," the new flagship was launched on September 24, 1974. Just as during the Napoleonic wars Nelson's fleet had come to dominate the seas, I hoped that by the late twentieth century our new flagship would come to dominate the mutual fund seas.

My idea suffered a setback when the Fund directors allowed Vanguard (owned, under our new mutual structure, by the funds themselves) to handle solely the Fund's *administration*, which comprises but one of the three sides of the triangle that represents mutual fund operations. Our crew, numbering only 28 members when we began our voyage, was responsible only for the Fund's operating, legal, and financial affairs. The two more critical sides of the triangle—*investment management* and *share distribution*—were to remain with my rivals at Wellington Management. Yet I fully realized that our own destiny would be determined by what kind of funds we created, by whether the funds could attain superior investment returns, and by how—and how effectively—the funds were marketed. And I would not preside over these activities.

The setback left me with little room to develop the fully mutualized organization that I had envisioned for the new firm. The fact that investment management was outside of Vanguard's mandate led me, within months, to an action that, today, seems obvious but was then unprecedented. I brought to fruition an idea I had toyed with for years. Based on evidence that I had ascertained in my Princeton

[1] Another Blair connection: In 1993, Dr. J. Brooks Hoffman '36, and Blair's legendary Chairman from 1962 to 1978, presented me with a copy of one of the magnificent original broadsides that reproduced Nelson's message, printed in London in 1802. It hangs right outside the door to my Valley Forge office.

thesis, I had also written that mutual funds should "make no claim to superiority over the market averages." Was this thought the precursor of my later interest in simply *matching* the market with an index fund? Honestly, I don't know. But the moment that I wrote those words in 1951 may well have been when the seed was planted that germinated into this recommendation to the Board of Directors in September 1975: Vanguard should form the first market index mutual fund in history.

## An Index Fund, a New Distribution Network, a Novel Bond Fund

The trick of the index fund, I argued to the Board in September 1975, was that it didn't *require* "investment management." It would simply own each of the 500 stocks in the Standard & Poor's 500 Index. This partially disingenuous argument narrowly carried the day, and with this step into quasi-management, we had edged into the *second* side—the investment side—of the fund triangle. By the time 1975 ended, we had started the fund. First Index Investment Trust (now named Vanguard 500 Index Fund) was derided for years and was first copied only after nearly a decade had passed. But today this index fund, called "Bogle's Folly" at the outset, is the largest mutual fund in the world.

How did we get to the third and final side of the triangle—share distribution? Once again, we devised a novel solution to a seemingly complex challenge. The novelty? We proposed to eliminate the very *need* for distribution. We would do away with the network of brokers that had distributed Wellington shares for a full half-century, relying, not on sellers to *sell* fund shares, but on buyers to *buy* them. And after another divisive battle, we took that step in February 1977, converting overnight from the traditional broker-dealer selling system to a sales-charge-free, no-load marketing system. We've never looked back. We've never had to.

There was really only one further step in the evolution of Vanguard's central concept. It began just before the no-load decision and was completed shortly thereafter. In 1976, Congress had passed a law enabling the creation of municipal bond funds, and we began to plan our own entry. Clearly, being the industry's low-cost provider would give us a huge leg up in offering such an income-oriented vehicle, and, even better, most of the existing funds carried initial sales charges that could erase a full year's income for the investor. What is more, even as I had come to believe that precious few stock managers could outguess the stock market, so I had come to believe that precious few bond managers could outguess the bond market by accurately forecasting the direction and level of interest rates. Yet our peers, by offering "managed" bond funds were implicitly promising they could do exactly that—a promise that could not be fulfilled.

Here arose another simple insight, in its own way as obvious as the index fund. Why not depart from the crowd, forming not a *single* tax-exempt bond fund, but a *three-tier* bond fund with three series: one, *long-term*; one, *short-term*; and one—you guessed it—*intermediate-term*. All would be available without sales loads and at minimal cost. It's difficult, in truth, to imagine a more banally simple idea for a mutual fund. *But it had never been done before.* And it changed the way investors would think about bond investing. We later applied the three-tier structure to our corporate and U.S. Treasury bond funds, and almost overnight it became the industry standard. Yet another Vanguard innovation, and it had changed the rules of the game.

## Strategy Follows Structure

Yes, we had the insight to recognize the opportunities associated with implementing a low-cost, index-oriented, structured-portfolio strategy. But, given the elementary mathematics of the market, that insight is so startlingly obvious that it *must* have been shared by many other firms in our industry. All of our rivals had the same *opportunity* but, just like the prime suspect in a murder mystery, we alone had the *motive*. Because of our very *structure*, the finger of guilt, as it were, pointed directly at Vanguard. We

*sought* low costs; our rivals, because they earn their profits from the amount of fees they receive, aren't exactly eager for fee reductions.

Our structure, then, played not only a vital, but essential, role in shaping our strategy. It established us as industry leaders, not only in index funds and bond funds, but in the then-burgeoning money market fund arena, where the link between lower cost and higher yield is virtually dollar for dollar. *Strategy follows structure.* Our fundamental strategy, developed long before the movie *Field of Dreams* popularized a phrase that inspired the creation of a baseball diamond in Iowa, was based on this now familiar tenet: *If you build it, they will come*.

It took years for the investment world to recognize the intrinsic value of the investment diamond that our new structure represented, and of the particular brand of mutual funds fostered by that structure, but the investors finally came. And they came by the millions.

## Opposition from a Formidable Source

The structure we had built during those struggles, however, was still built on sand. In 1977, the Securities and Exchange Commission had given us only a *temporary* order allowing us to take some of the crucial, but unprecedented steps required to make Vanguard a fully functioning mutual fund enterprise. We endured a two week regulatory hearing in 1978 and subsequently filed mountains of documents and legal arguments. Astonishing as it may seem today, in 1980, nearly three years after giving us its temporary approval, the Sec reversed its position and ruled that we could *not* continue. Aghast, for I knew we were doing what was right for shareholders, we mounted a vigorous appeal, and we triumphed. The SEC did an about-face, and, in 1981, after a struggle that had lasted *four years*, finally approved our plan, with these words:

> The Vanguard plan actually furthers the objectives [of the Investment Company Act of 1940] by ensuring that the Funds' directors . . . are better able to evaluate the quality of services rendered to the funds. The plan fosters improved disclosure . . . clearly enhances the Funds' independence . . . and promotes a healthy and viable fund complex.

The words in the Commission's powerful endorsement made the struggle worthwhile. At last, our rock foundation was firmly in place.

## What Our Entrepreneurship Produced

Now, I recognize that the creation of a new company out of the remnants of an existing company may not quite qualify as entrepreneurship. But we did have quite a number of entrepreneurial things going on in Vanguard's development. First was the creation of a new form of governance in the mutual fund industry, a *mutual* structure in which the interests of fund investors take precedence over the interests of fund managers and distributors. A second was creating the world's first index fund, a passive portfolio designed simply to provide the returns provided by the stock market—a challenge few portfolio managers have met over time. The third was creating a new paradigm for bond fund management. The fourth, abandoning a proven distribution system in favor of a new and untried one. Fifth is the sheer energy required to get it all done, despite a divided board of directors and the initial opposition of a Federal agency. And sixth, I suppose, is the determination required to ignore, not only our dog-eat-dog competitors that were traveling a very different road, but the difficult financial market conditions that saw investor money leaving our small complex for 82 consecutive months, a blood-letting that didn't end until 1982. It helped that I never entertained a single doubt about either our strategy or our structure.

It took a few years to get on our feet after we began. But by 1980 our assets had doubled, from $1.4 billion to $2.8 billion. They doubled again to $5.6 billion in 1982, again to more than $10 billion in early 1985, again to $24 billion as 1986 ended, *again* to $48 billion in 1989, once *again* in 1992 to nearly $100 billion, then to $200 billion by mid-1996, and *again* to $400 billion in 1998. No one thought that remarkable record could continue, and it didn't. Nonetheless, despite the tough financial markets since the bubble burst, our assets now exceed $600 billion. Today, our three simple, basic strategies—stock index funds, structured bond funds, and money market funds—are all structured to reflect our low-cost advantage in the most obvious, most favorable light.

The powerful engines that have driven our growth are the assets of this simple group of funds--$425 billion, 70% of our $600 billion asset base—and have accounted for 90% of our net cash inflow. What is more, we have also applied the principles on which they are based—an emphasis on rock-bottom operating costs, minimal portfolio turnover, no sales charges, diversified, investment-quality portfolios, and clearly-defined objectives and strategies—to substantially all of the remainder of our assets, largely actively-managed equity funds. Importantly, our strategies are mutually reinforcing in the marketplace of intelligent long-term investors—individual and institutional alike, whom we have chosen to serve—an internally-consistent strategy that is one of the keys to business success.

## The Fruits of Success . . . or Success for It's Own Sake?

I want to close by returning to Schumpeter's thoughts about the motives of the entrepreneur, and the role of monetary reward. While entrepreneurs are a vital moving force in human economic progress, and while their motivation can well be ascribed to the dream of founding a kingdom, the will to conquer, the impulse to fight, the joy of creativity and ingenuity, and the exercise of one's energy, there's normally every reason entrepreneurs should profit from those qualities, and little reason they should not.

In the field of industry, not all ventures succeed, and handsome profits on those that do is the norm. While at least one of Dr. Hollerith's inventions (an air brake system for railroad engines) failed, one was priceless—the electronic punch card and tabulating machine system. Doubtless he prospered from it and presumably turned a substantial profit when he sold his company in 1911. But, other entrepreneurs have ignored patent rights and given their inventions free of charge to the public. Most recently Linus Torvalds, a young Finnish computer programmer, offered his Linux operating system which he designed as an alternative to Windows and Mac, without cost to anyone with a computer—so-called "open service software." While Linux has faced slow going so far, it's competitive, and its less finicky, and more reliable characteristics may one day enable it to beat these giants at their own expensive game. If it happens, it would be an exciting advance in the information age, and Schumpeter, who coined the phrase "creative destruction," would be applauding from his other-worldly perch.

Yet another entrepreneur, a man recently described as "America's first entrepreneur,"[2] also eschewed personal gain. Like many entrepreneurs, Benjamin Franklin was also an inventor, creating, among other devices, the lightning rod and the Franklin stove. He made no attempt to patent the lightning rod for his own profit, and declined an offer by the Governor of the Commonwealth for a patent on his Franklin stove. The "Pennsylvania fireplace" he invented in 1744 to economize on fuel and dramatically improve the efficiency of home heating was designed to benefit the public at large. Franklin believed that, "knowledge was not the personal property of its discoverer, but the common property of all. As we enjoy great advantages from the inventions of others," he wrote, "we should be glad of an opportunity to serve others by any invention of ours, and this we should do freely and generously."

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[2] The title of a seminar on Benjamin Franklin held at Princeton University last autumn, directed by Assistant Secretary of Defense, Mahlon H. "Sandy" Apgar, Blair '64.

Dr. Franklin also created, in 1752, America's first insurance company—a *mutual* insurance company owned not by a profit-making firm, but by the policyholders themselves. The Philadelphia Contributionship recently celebrated its 250th anniversary, a record of longevity that I doubt can be matched by any company in America. And I hope you'll recall that Grandpa Armstrong also was, well, in the vanguard of creating mutual insurance companies. (Though, like Dr. Hollerith, Mr. Torvalds, and Dr. Franklin, he too became a most prosperous citizen.)

## Mutuality

And so it was at Vanguard. We created a company that patented neither its structure nor its index fund nor its new process of bond fund management. Yet, paradoxically, it is these aspects of Vanguard that have become our trademarks. And it works, because this mutuality, of course, offers a singular advantage in the financial field. When buying most goods and services, who among us, really, can be the arbiter of the relationship between the cost we pay and value an object—a "thing"—holds for us? But when buying financial services, the trade-off between cost and value is most often direct—dollar for dollar. In such a case, beauty is no longer in the eye of the beholder. Beauty is in the share of financial market returns that accrue to investors as compared to financial intermediaries. Or, put less kindly, in the division of the receipts of the casino between gamblers and croupiers.

How much does this allocation of returns matter? Greatly! If the return of the stock market is 10% annually, and the cost of investing (as the evidence indicates) is 2½%, investors will receive 7½%. Compounded over thirty years, $1 that earns a 7½% annual rate grows to $8.75. But $1 compounded at 10% grows to $17.50. *Double the return, simply be eliminating costs.* And owning the market is easily accomplished through an all-market index fund. So excising as much cost as possible from the financial market equation—what I've tried to do for investors in the fund field—or from the field of insurance—as Dr. Franklin and Grandpa Armstrong did for policyholders—constitutes both a sure-fire, common sense formula for financial success that provides great advantages to the public and a winning business strategy.

I must confess to being amazed by the rife parallels in the business careers—and the entrepreneurial philosophies—of myself and my great grandfather, all the more so since it has only been in the last few years that I've learned in depth of his accomplishments.

- He was dedicated to mutuality. So am I. And we both had the courage of our convictions and put them into action in our life's work.
- He believed that (as he said in an 1886 speech) "companies having the smallest expense will have the ultimate advantage." That's the very concept on which I built Vanguard's structure and staked our strategy.
- He was a driving, prickly man who didn't hesitate to take on his own directors ("Mr. Armstrong was twice removed from the management and twice recalled," his biography says.) Almost the same with me, but I'm still waiting for the second recall!
- He hectored his industry to give the public a fair shake. ("To save our business from ruin we must at once undertake a vigorous reform . . . the first step must be to *reduce expenses*." Italics in original text.) I've done just the same, saying "costs matter" so often that it has become my mantra.
- Late in his career, he tried to reform his industry with a powerful book, *A license to Steal: Life insurance, the swindle of Swindles.* In 1999, when I was exactly the same age as he was in 1917 when he wrote his book, I tried to do the very same thing in Common Sense on Mutual Funds: New Imperatives for the Intelligent Investor.
- He like to turn a few hot phrases in his book. "Why talk about correcting the present evils (of insurance). The patent has a cancer, the business is the blood. He is not only

> sick into death, he is dangerous to the community. Call in the undertaker!" I emulated his hyperbole, but, I fear, fell short: "In the mutual fund industry, the natural order has been turned on its head. The result not only defies nature, it defies common sense."

So it appears that we can conclude that the apple's apple's apple's apple didn't fall very far from his entrepreneurial tree. We can only speculate why that's the case, but as the saga I've recounted this evening makes clear, there was lots of luck involved, lots of challenge, lots of disappointment, and perhaps even lots of family genes and character. I'm not sure that even Schumpeter knew the source of the entrepreneurial spirit that contributes so much to economic progress. But perhaps the examples set by Dr. Hollerith, and Mr. Armstrong, as well as the story of the surprising success of Vanguard, will inspire some ideas of your own.

And when you leave Blair, and attend college, and go out into the world, perhaps these ideas will help you to capitalize on the infinite opportunities that lie there waiting for you, always.

Note: The opinions expressed in this speech do not necessarily represent the views of Vanguard's present management.

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