FROM THE LEWIS AND CLARK EXPEDITION TO IBM, DELL, AND SOUTHWEST AIRLINES: TEACHING HISTORY AND LEADERSHIP TO BUSINESS STUDENTS

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History is not a tomb of dead facts but a resource that can inform and improve everyday decision making. Experience as an analytical tool is invaluable for solving problems in changing and competitive environments. "From the Lewis and Clark Expedition," which coincides with the National Lewis & Clark Bicentennial Commemoration (2003–2006), demonstrates how contemporary business concepts of visionary leadership, systematic planning, and organizational climate were instrumental to the success of Thomas Jefferson's "Corps of Discovery" and shows how a mastery of these concepts contributed to the successes of the pioneering US corporations IBM, Southwest Airlines, and Dell.

There is a tradition of teaching history in US business schools. By 1929, most members of the American Association of Collegiate Schools of Business (AACSB) offered courses in economic history, and half of all accredited schools made the history course (or its equivalent) a requirement for graduation. During the ensuing three decades, several prestigious economic and business history journals were established, including Harvard's *Business History Review* and the Economic History Association's *Journal of Economic History*. In the 1970s and 1980s, scholars of accounting, management, and marketing organized interest groups to study the specific histories of their subdisciplines. Following a 1982 survey of AACSB members, David D. Van Fleet and Daniel A. Wren concluded that 79 percent of business schools offered their students some form of history coursework. Van Fleet and Wren were disturbed, however, when they updated their survey in 2003 and discovered "a steady decline in the study of history" at American schools of business. They expressed concern that business students would not develop a healthy perspective. ²

The business school at the University of Puget Sound in Washington State is bucking this recent curriculum development. During the past three decades,

Puget Sound, founded in 1888, underwent a strategic transformation, moving from the mission of a traditional research university to one of a national, residential liberal arts college. Operating under the university's new liberal arts mission, the School of Business and Public Administration rethought and revamped its undergraduate program. After extensive consultation with regional business executives who emphasized that businesses do not operate in isolation from other domestic and world affairs the business school altered the scope and emphasis of its curriculum, and eventually changed its name to the School of Business and Leadership. The school requires introductory and advanced courses from non-business disciplines, such as history, and offers three tracks of undergraduate business study: international business, general business, and a unique, selective honors-type program known as the Business Leadership Program. Among other changes, business courses feature increased emphasis on lucid written and verbal communication, multidisciplinary approaches to learning, case study analysis, and field research.

To provide business students with a well-rounded education, the university awarded the business school a new cross-disciplinary, tenure-track faculty position. I was hired for that position in July 2000. As a U.S. diplomatic and business historian with a professional background in bank management (at Wells Fargo Bank of Nevada in the commercial real estate and risk management departments), I was asked to teach business courses, including the new course Paradigms of Leadership.

Beginning in fall 2000, I infused my courses with a variety of historical readings, using, for example, Thomas K. McCraw's *Creating Modern Capitalism* in the introductory international business class.³ The historical literature I selected for the business leadership course ranges from H. W. Brands' *Masters of Enterprise* and Edwin Black's *IBM and the Holocaust* to Robin Gerber's *Leadership the Eleanor Roosevelt Way* and Donald Phillips' *Lincoln on Leadership.*⁴ Because the university is located in the Pacific Northwest and the Lewis and Clark bicentennial (2003–2006) was approaching, I developed a leadership case study of Thomas Jefferson and his famous "Corps of Discovery." Students analyze the expedition as a capstone case, which prompts them to demonstrate a mastery of an array of leadership concepts after three months of study. Assignments include readings from the Lewis and Clark journals, edited by Gary Moulton, and from interpretative works by James Ronda, John L. Allen, and Stephen Ambrose. During spring semesters, the class treks southward to Oregon to survey the Fort Clatsop National Memorial Park, site of the expedition's Pacific Coast base camp.

The Lewis and Clark study has been rewarding. Students routinely demonstrate a mature understanding of how leaders can learn from the past and apply that knowledge to contemporary situations. The expedition presents an informative means for teaching and learning the leadership process. Jefferson, Meriwether Lewis, and William Clark were superior, if imperfect, leaders. Moreover, Lewis, Clark, and most of their core recruits were exemplary followers who achieved many of their group's ambitious objectives while operating in risky and uncertain environments. The Lewis and Clark case helps business students search for connections between seemingly unrelated academic disciplines, discern lessons from the past, and assess leadership situations from new perspectives.

I will illuminate four leadership lessons from the Lewis and Clark expedition presented in the Paradigms of Leadership course: (1) visionary leadership is crucial and timeless, (2) effective planning is hierarchical and continuous, (3) organizational climate is the bedrock of high performance, and (4) liberal education is vital in a changing and uncertain world. As examples I will connect vision, planning, and climate to proven business leadership practices at three successful corporations: Southwest Airlines (vision and Herb Kelleher), Dell (planning and Michael Dell), and IBM (organizational climate and Thomas Watson, Sr., Thomas Watson, Jr., and Louis Gerstner.)

LEADERSHIP LESSON #1: VISIONARY LEADERSHIP IS CRUCIAL AND TIMELESS

A vision is an idealized image of an organization's future. Leaders of organizations are responsible for crafting clear, compelling, and original vision statements that are overarching, inspiring, and ideological. An effective vision unites an organization's past, present, and future by identifying outcomes that are aligned with the group's core values and culture. According to leadership scholars James Kouzes and Barry Posner, leaders are "possibility thinkers" who confidently motivate their followers by offering a shared sense of direction. Because pursuing particular visions will alter the status quo, organizations can create and control their future.

Visionary leadership is not a new concept so contemporary leaders can draw visioning skills from history. Martin Luther King's image of universal equal opportunity was instrumental to his effectiveness as a civil rights leader, and similarly the compelling vision of the absolute unity of God

proved crucial to Muhammad's founding of the Islamic religion. Thomas Jefferson is a role model, and any leadership examination of the Lewis and Clark expedition must include an understanding of the president's vision for the United States.

Long before he became president in 1801, Jefferson nurtured a bold vision of America's future, one that was predicated on territorial expansion. Only thirty-three years old in 1776, he penned America's Declaration of Independence, proclaiming the inalienable rights of "life, liberty, and the pursuit of happiness." As Jefferson matured, he came to envision an increasingly populous and prosperous nation governed by virtuous republican leaders.

Jefferson thought that societies progressed in stages, from unruly barbarism to law-abiding communities of farmers, market townships, and representative governments. He contended that a large, civilized, and wealthy United States would command respect, wield influence, and enjoy independence on the world stage. However, not all forms of progress were desirable. Jefferson deplored England's industrialization and urbanization, both of which he considered socially corrosive. England's vision of progress was to be avoided. The survival of America's good, corruption-free government, he argued, depended on the practices and rewards of farming and rural living. Jefferson articulated his grand vision for the United States in letters to friends. "Cultivators of the earth," he wrote to John Jay, "are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bonds."6 "I think our governments will remain virtuous for many centuries," he predicted to James Madison. But Jefferson thought civic virtue was limited to tillers of the soil. Once vacant land filled up and Americans moved to the cities, urban congestion would lead to the same kind of corruption he saw in Europe.7

Like Jefferson, contemporary business leaders can benefit their organizations by developing unique and attractive visions of the future. Moreover, leaders have an obligation to help formulate and communicate those visions, which provide their followers with a common direction and improve performance. Who can question the effectiveness of the bold, compelling visions set forth by Howard Schultz in the coffee industry or Jeff Bezos in internet retailing?

Southwest Airlines offers a singularly remarkable case of visionary leadership, and not unlike Thomas Jefferson's vision, it too had a basis in promoting liberty. Southwest Airlines employs 32,000 and flies more than 400

airplanes to fifty-nine cities in thirty-one states. In June 2005, the company was capitalized at \$11.4 billion. In 1967 the airline was a Texas dream sketched on a cocktail napkin by entrepreneurs Herb Kelleher and Rollin King. Kelleher, who would emerge as the company's charismatic leader, was a New Jersey attorney before moving to Texas in search of a start-up business venture. The original vision for Southwest Airlines was to provide Texans with inexpensive, convenient, safe, reliable, and friendly air transportation. Because of stringent federal regulation of the interstate airline industry, Southwest's initial vision was limited to intrastate operations.

During the 1960s, Braniff airlines monopolized air traffic between large cities in Texas, while Trans-Texas air dominated traffic between small cities. The lack of competition within the Texas market resulted in heavily controlled, expensive fares. The heart of the Southwest Airlines vision was to improve the affordability of air travel for the general public. This simple vision proved threatening to the existing airlines, which fought Kelleher, King, and their investors all the way to the Supreme Court. When the Southwest group exhausted its venture capital in 1969, Kelleher elected to cover the ongoing legal expenses and work the case for free. His tenacity was rewarded. Two years later, with four planes and seventy employees, Southwest Airlines began flying between Houston, Dallas, and San Antonio. Adhering to a business model of extraordinary productivity, customer service, and loyalty to employees, the airline became profitable in 1974, and has been ever since. In 1979, after the federal government deregulated interstate air travel, Southwest Airline's vision was modified to allow for domestic expansion outside Texas.

Southwest's founders hoped their company would provide a valuable public service, one that would enable many more Americans to enjoy the benefits of flying. For four decades, Kelleher has evangelized that his low fare airline was a truly liberating force in American society. In 2003, he proclaimed that by making flights more affordable, Southwest had "liberated a tremendous number of people, who for business and personal reasons are now able to fly much more than they ever were before. And that's important to them. And that's why we're a symbol of freedom."

LEADERSHIP LESSON #2: EFFECTIVE PLANNING IS HIERARCHICAL AND CONTINUOUS

Once leaders as varied as Kelleher and Jefferson have envisioned and communicated ideal futures for their organizations, they must initiate a planning

process to determine how best to bring their visions to fruition: planning is a critical component of vision implementation. The most effective approach to planning is systematic and structured, with plans being developed at three organizational levels: strategic, tactical, and operational.

Two centuries after the Lewis and Clark expedition, few people comprehend the intertwined roles that vision and planning played prior to the Corps of Discovery's voyage up the Missouri River in May 1804. Jefferson's compelling vision of the United States as an independently powerful, agriculturally prosperous, and highly populated and virtuous republic necessitated planning at all levels. His strategy formulation illustrates the importance of situational analysis whereby a leader assesses his organization's internal and external environment and uses the findings to establish strategic and tactical objectives.

Jefferson's strategic planning derived from his assessment of the global environment. He understood his country's strengths and weaknesses, and the threats to it. At the turn of the eighteenth century, the United States was a fledgling power of the Atlantic World. Great Britain dominated the seas and occupied Canada. Russia owned Alaska. Spain claimed Florida, the Louisiana Territory, and lands farther west and south. France, under Napoleon Bonaparte, aimed to conquer continental Europe and to establish a North American empire. Geographically bound by the ocean to the east and the Mississippi River to the west, the United States was boxed-in. Despite America's position as a peripheral power, Jefferson established an ambitious strategy of territorial expansion. To achieve his grand vision, the nation would need an abundant supply of fertile land having access to navigable waterways. "However our present interests may restrain us within our limits," Jefferson once instructed James Monroe, "it is impossible not to look forward to distant times when our rapid multiplication will expand beyond those limits, & cover the whole northern if not the southern continent."9

Early in his presidency, geopolitical shifts spurred Jefferson to formulate specific tactical plans in support of his larger strategic objective of territorial expansion. Rumors spread that Spain planned to return control of the Louisiana Territory to France. Jefferson considered Napoleonic France a threat because unrestricted access to the Mississippi River, especially to the port of New Orleans, was crucial to U.S. security and prosperity. In the summer of 1802 Jefferson also learned of British explorations of the northern Rocky Mountains and Pacific Coast. He had long feared British colonization

of the Pacific Northwest. In response to British and French machinations in the West, Jefferson established two tactical objectives. He asked Congress to support a covert military exploration of the trans-Mississippi northwest and launched a campaign to purchase New Orleans from France.

Napoleon initially rebuffed Jefferson's efforts to acquire New Orleans. By the spring of 1803, however, Caribbean rebels had defeated a French expeditionary army, and Napoleon agreed to sell to the United States, for \$15 million, the port city and the entire Louisiana Territory. Achieving Jefferson's other tactical objective of western exploration proved more daunting.

The specific goals of the northwest exploration were diverse, and must be examined within the context of Jefferson's vision of an "empire of liberty." The expedition was to offset foreign claims on the uncharted territories and to discover a western water route linking the Missouri River to the Pacific Ocean. In his communications with Congress, Jefferson emphasized the expedition's economic benefits, namely, solidifying peaceful trade with the Native tribes. He also wanted knowledge about tribal cultures, detailed topographical maps and descriptions, and scientific discovery of flora, fauna, and soils.

Jefferson selected his 28-year-old personal secretary, Captain Meriwether Lewis, as the commander of the expedition. An experienced army officer and outdoorsman, Lewis was eminently qualified to lead the expedition and to assume responsibility for its immediate operational planning and organization. Careful plans were laid for the procurement of supplies and equipment, for the construction of boats, and for the recruitment of a dozen expedition members. The preliminary budget for all equipment and supplies was set at \$2,500. Lewis planned to reach St. Louis by August 1, 1803, and travel 700 miles up the Missouri before winter. The mission was to be completed by the fall of 1805.

Like all leaders, Lewis learned that even well-informed plans required adjustment. He recruited a second officer, William Clark, and the permanent corps eventually included twenty-nine men, one woman, an infant, and a Newfoundland dog. This larger party required more materiel and thus a larger budget. Unforeseen delays caused Lewis to reset his timetable on several occasions, and in the end, he planned for the expedition to depart St. Louis in the spring of 1804 and return in the fall of 1806. The expedition did return in the fall of 1806 still well-stocked with two critical supplies: rifles and gunpowder. Lewis's operational plan outlined the means for accom-

plishing Jefferson's tactical goal of western exploration and indirectly supported the president's broader strategic goal of territorial expansion, which was crucial to his grand vision of an American empire of liberty.

Vision and comprehensive planning can provide organizations with a framework for making informed decisions, present or long-term. As business consultant Wesley Truitt attests, "When you plan for success, the chances are greatly increased that you will achieve it." Unlike Jefferson's Corps of Discovery, Dell, the maverick computer giant, learned the lesson of disciplined planning the hard way.

Dell was founded in 1984 with a vision to provide computing technology to the masses. A year earlier when Michael Dell was eighteen, his father asked him what he wanted to do with his life. Michael quipped, "I want to compete with IBM!" Dell began to build and sell (directly to customers) moderately priced IBM-compatible PCs that offered high quality, good service, and fast performance. He later recalled, "I knew in my heart that I was on to a fabulous business opportunity" and that "if you took this tool, previously in the hands of a select few, and made it available to every big and small business, individual, and student, it could become the most important device of the century." 13

As a consequence of that vision, Dell's early strategic plans amounted to growth, growth, and more growth. During a rare formal planning session in the fall of 1986, the company set a remarkable goal of generating \$1 billion in revenue by 1992. Company leaders and outside advisers established two major tactical objectives for getting there. First, Dell would start selling its computers to large corporations, offering them unprecedented onsite technical support. Second, the company would begin selling computing products abroad.

The strength of Dell's direct business model accounts for the company's successful forays into corporate and international sales during the latter 1980s. However, its failure to engage in rigorous operational planning threatened its viability. Michael Dell later confessed, "we didn't understand that with every new growth opportunity came a commensurate level of risk." A crisis surfaced in 1989 when the company purchased an oversupply of 256K memory chips. Shortly thereafter, chip prices fell drastically, and worse, the capacity of newly manufactured chips was expanded to 1 megabyte. Poor planning also contributed to the ill-fated launch of Dell's Olympic product line, described as a "bleeding-edge technology." ¹¹⁵

Despite such setbacks, Dell adhered to its overarching strategy of rapid

The crisis of 1993 led company officials to temper their decade-old, mono-strategy of exponential growth. The new priorities were liquidity, profitability, and growth, and Dell began to develop its now institutionalized process of rigorous planning at all levels. The Every manager assumed new responsibilities to plan for cost reductions and improved sales and cash flow. The company had learned the value of disciplined planning and accepted that planning was a continuous process. Michael Dell now proclaims that all organizations must "Plan Or Die." For the fiscal year 2005, Dell reported net revenue of \$49.2 billion and \$3.0 billion in profits.

LEADERSHIP LESSON #3: ORGANIZATIONAL CLIMATE IS THE BEDROCK OF HIGH PERFORMANCE

In addition to highlighting the centrality of planning and vision, a study of the Lewis and Clark expedition illustrates the benefit of shaping organizational climate. Climate is an organization's internal environment; it is the collection of ideas and attitudes that people have about their workplace. Leaders must be attentive to these thoughts because they have a powerful effect on the intrinsic and extrinsic motivation of followers and, ultimately, on organizational performance. Fortunately, leaders can influence employees' perceptions and enhance collective behavior. Researchers and practitioners alike have concluded that "the single most important determinant of an organization's climate is the day-to-day behavior of the leaders of the organization."

Lewis and Clark made a conscious effort to construct a high performance organization capable of succeeding in stressful and unpredictable environments. The first step was a stringent approach to recruitment. They needed followers with the requisite experience and skills. Recruits also needed physical strength and psychological hardiness. Clark understood that the proper selection of recruits was of vital importance to the enterprise. Lewis agreed, stating

that the success of the mission would "depend on a judicious selection of our men; their qualifications should be such as perfectly fit them for the service, otherwise they will rather clog than further the object[ives] in view."²¹

By April 1804, most of the expedition's members had been selected, and thereafter the captains worked diligently to create a cohesive, elite unit that was prepared to meet the daunting challenges ahead. The men came to understand the purposes of their mission. They were organized into three detachments and gained a clear definition of their individual roles. Lewis and Clark monitored and actively managed the corps' morale and performance. Their leadership style and tactics depended on circumstances: at times, they were dictatorial and coercive; at other times, they were democratic and compensative. The captains frequently rewarded the men with whiskey, rest, praise, and music. And they limited the use of coercive power for those rare occasions when a follower threatened the group's safety or overall cohesion. For example, Private Alexander Willard was sentenced to 100 lashes for falling asleep on guard duty, and Private John Newman was given 75 lashes and discharged from the expedition for

having uttered repeated expressions of a highly criminal and mutinous nature; the same having a tendency not only to distroy [sic] every principle of military discipline, but also to alienate the affections of the individuals composing this Detachment to their officers, and disaffect them to the service for which they have been so sacredly and solemnly engaged.²²

By spring 1805, the Corps of Discovery had become tightly bound, held together by mutual trust, respect, and dedication. For the remainder of the expedition, some sixteen months, there were no serious subordinate infractions. On April 7, Lewis described in his journal any leader's ideal situation:

The party are in excellent health and sperits [sic], zealously attached to the enterprise, and anxious to proceed; not a whisper of murmur or discontent to be heard among them, but all act in unison, and with the most perfect harmony.²³

The unit's cohesion was tested on June 1, 1805, when the corps came upon an unexpected fork in the Missouri River. Which tributary was the true Missouri leading to the Pacific? There was little room for error as the expe-

dition needed to cross the Rocky Mountains before winter set in. Moreover, a powerful and potentially hostile tribe controlled the territory. Lewis feared that making the wrong decision would so demoralize the party that the entire expedition would be jeopardized.²⁴ While Clark and Lewis believed that the southern branch was the true Missouri River, the rest of the corps thought they should head north. But when the group was ordered south there was no hint of rebellion. The party, after having expressed its collective opposition, trusted its two leaders. According to Lewis, the men "said very cheerfully that they were ready to follow us any wher[e] we thought proper to direct but that they still thought that the other [river] was the [Missouri] river."²⁵ The captains had made the right choice, and they named the northern tributary the Marias River.

Like Lewis and Clark, IBM's three transformational leaders, Thomas J. Watson, Sr., Thomas J. Watson, Jr., and Louis Gerstner comprehended the value of an organizational climate that inspires high performance. No American corporation is more renowned for its cultural heritage than Big Blue. The company's culture, as business historian Richard Tedlow writes, became "so firmly embedded...that employees found themselves viewing not only their job but their lives through the prism of their place of work."²⁶

Thomas Watson, Sr.'s, approach to building a high performance culture blended paternalism, charisma, autocracy, and generosity. For decades, IBM was a cult of his personality. Watson's corporate thinking and rhetoric frequently rested on "the company as family" metaphor, wherein he was the father and the employees were his "boys." Watson could be domineering and benevolent, kind and cruel. From the time workers were hired they were indoctrinated into Watson's way of doing business. ²⁷ IBMers subscribed to three "Basic Beliefs": excellence in all areas, superior customer service, and respect for the individual. More important was unswerving loyalty to Watson. Workers sang company hymns, dressed conservatively, and behaved dutifully. They revered Watson's omnipresent photograph and many philosophic slogans. They read his editorials in the company magazine, listened to his "fireside chats," and, when worthy, attended alcohol-free sales conventions to celebrate individual and company performance.

In return, IBM employees received first-rate professional training, job security, and above-average pay and benefits. Moreover, they gained a sense of pride in belonging to one of the most successful and respected business organizations in the United States. Lou Mobley, a former IBM executive, found the

pioneering culture inspiring, and he concluded that Watson's demanding, yet rewarding, paternalism was perfectly suited to his employees.²⁸ In 1956, the year Watson died and his son assumed full control of IBM, the company booked a record \$892 million in revenue and \$87 million in profits.

Thomas Watson, Jr., faced the difficult task of reorganizing IBM to meet the business challenges of the electronic era while still preserving the distinct culture that had been pivotal to its success. He discarded the song singing, for example, but maintained the company's commitment to job security, attractive salaries, and generous benefits. "I knew exactly the attitude I wanted to cultivate in ordinary IBM employees," Watson wrote in his memoirs.

I wanted them to feel a proprietary interest, and to have some knowledge of each others' problems and goals. I also wanted them to feel that they had access to top management and that no one was so far down the chain of command that he couldn't be kept aware of where the business was heading.²⁹

Watson revamped the company's centralized structure with four semi-autonomous divisions. He oversaw the standardization of job descriptions and compensation, and systematized the employee evaluation process. He created a large corporate staff to act as a coordination center and a six-person management committee to make strategic decisions. Crucial to the evolving culture was a new appreciation for differing and competing ideas. Unlike his father, who preferred sycophants in executive positions, Watson promoted men of intelligence who were "fierce, strong-willed decision makers." Moreover, the younger Watson believed that the best way to motivate his executives was to create a competitive internal environment. This approach, combined with a penchant for bold risk-taking, launched IBM to unprecedented heights. In 1971, the year before Watson retired, IBM earned \$1 billion in profits from \$7.5 billion in sales.

After operating under several of Watson, Jr.'s, handpicked successors, IBM's profits peaked at \$6.6 billion in 1984, but the tide turned in the next decade. From 1991 to 1993, the corporation lost \$16 billion and laid off more than 100,000 workers. Louis Gerstner, named CEO in April 1993, targeted a stagnant, stultifying culture as the key to IBM's decline. He set out to reshape and reform the culture to fit the digital age like the adjustment orchestrated by the younger Watson decades earlier. "Until I came to IBM," Gerstner wrote, "I

probably would have told you that culture was just one among several important elements in any organization's makeup and success...I came to see...that culture isn't just one aspect of the game—it is the game."33

Gerstner shrewdly rejuvenated many of the company's first principles, such as the three Basic Beliefs, which he determined had been corrupted over time. The commitment to excellence, for example, had devolved into costly and unnecessary perfectionism. Respect for individualism had deteriorated into a sense of immunity and personal entitlement, and superior customer service had declined into inattentiveness and corporate chauvinism. Gerstner's comprehensive revitalization of IBM's culture contributed to impressive financial results. During his eight years as CEO, IBM's annual profits and return on stockholders' equity averaged \$6.0 billion and 29.2 percent. As historian Richard Tedlow concluded in 2003, "IBM survived a near-death experience. It took an outsider to save it by, in part, returning it to its [cultural] roots."³⁴

LEADERSHIP LESSON #4: LIBERAL EDUCATION IS VITAL IN A CHANGING AND UNCERTAIN WORLD

A key element to effective leadership is the ability to solve complex problems amid changing and uncertain situations. It is not surprising that an important factor that gave the Corps of Discovery special confidence in Captains Lewis and Clark was their obvious intelligence. This trait had been central to Jefferson's selection of Lewis to lead the expedition. Because the president established diverse and daunting goals for the explorers and he knew they would encounter uncertain environments, he sought a broadly educated and experienced leader who thought analytically to make informed decisions.

Lewis spent most of his life preparing for the western expedition. The teenaged Lewis was tutored in mathematics, botany, and natural history. His rural Virginia upbringing and military experience honed his frontier skills. He was a superb rider, tracker, hunter, fisher, and hiker. He gained leadership experience in the army and while managing his family's 2,000-acre plantation. In 1801, Lewis became Jefferson's aide-de-camp in Washington, and through the president's mentoring he received what historian Stephen Ambrose describes as an "undergraduate's introduction to the liberal arts, North American geography, botany, mineralogy, astronomy, and ethnology." After Jefferson chose Lewis to lead the expedition, he dispatched

him to Pennsylvania for further intensive study in medicine, mathematics, botany, anatomy, and astronomy.

Lewis drew on his liberal education throughout the twenty-eight month expedition. His countless decisions, continuous learning about western geography, and analytical decision making at the confluence of the Missouri and Marias Rivers provide a textbook example of thoughtful problem solving by an educated mind.

Before setting out, Lewis absorbed the limited information available about the geography of western North America, and especially of the Missouri and Columbia Rivers and the supposedly short portage separating them at the Rocky Mountains. After he and Clark reached the St. Louis area in December 1803, the captains solicited geographic information from local officials, merchants, and traders. With this knowledge they developed a guiding, if general, image of the landmass they were to explore and map. The captains fundamentally revised that image during the subsequent winter when the expedition camped near the Mandan and Hidatsa tribes. Lewis and Clark gathered and analyzed data provided by the natives and British traders, and from documents obtained just before departing St. Louis. They no longer expected the Missouri to form a near straight line from the Mandan villages to the Rocky Mountains. Nor did they think the Rockies were a single range of mountains.

This new intelligence served the Corps of Discovery well after it departed the Mandan villages in the spring of 1805. But Lewis and Clark were flummoxed in early June when the expedition came upon that unanticipated fork in the Missouri River. Faced with a risky and momentous decision, the leaders approached the problem carefully and methodically, drawing on their education and experience. First, the captains sent small parties of men up each branch of the river, some by canoe, others overland. Their reports proved inconclusive. Lewis and Clark scouted the immediate area, closely observing the two snowy mountain ranges to the south and southwest. They also measured the depth and width of the two rivers, noting their distinct colors. Furthermore, they observed the composition of the river bottoms and gauged the speeds of the currents. Because the "air & character" of the northern branch "so precisely" resembled the eastern branch of the Missouri, most in the expedition concluded that they should proceed along the northern tributary.³⁶

After careful analysis, however, the two leaders overruled their followers, many of whom had considerable river and frontier expertise. Despite

the familiar nature of the northern tributary, the leaders drew upon their understanding of the relationship between the Missouri River and the Rockies and determined that the southern river branch was more likely to reach distant mountains and the adjoining Columbia River. Moreover, there was geographical evidence. Like other rivers "issuin[g] from a mountainous country," Lewis wrote, the waters of the southern branch were clearer, and its bed contained round, smooth, flat stones.37 Still, the captains could not afford a hasty decision. To reach a firmer conclusion, Clark led a small party along the south branch while Lewis and six men went north. Lewis observed a mountain range but determined that it was too distant to be aligned with the Missouri. After several days of exploration, the captains, if not their followers, grew more certain that the southern river was indeed the Missouri. The leaders were correct; and as geographer John Allen has concluded, "this was a brilliant piece of deduction from a fuzzy set of facts and illustrates, as well as any other event during the course of the expedition, the competence and intelligence of the two officers."38

CONCLUSION

At the University of Puget Sound, we believe that businesses would do well to seek out and cultivate leaders who possess broad knowledge and skills and demonstrate an appreciation for liberal education. Such employees are likely to be inquisitive, reflective, and adaptive and to demonstrate a dedication to lifelong learning. It is not surprising that a majority of business leaders believe that knowledge of the humanities is "essential to developing critical thinking and problem-solving skills."

The marketplace that businesspeople encounter today is similar to the frontier encountered by the Lewis and Clark expedition. Now, as then, there are risks and uncertainty, intricate problems, and tremendous opportunities. Human organizations must develop leaders who maximize group performance in complex environments. Because business problems involve elements from many academic disciplines (mathematics, science, communications, psychology, government) the most effective organizations will be those that appreciate and attract liberally educated people. To make optimal decisions, business leaders must discard the tendency for "single-loop learning" and open their minds to new sources of information and different ways of knowing.⁴⁰ Leaders need to develop an ability to analyze current situations and prior experiences from multiple perspectives. In other words,

liberal education and lifelong learning are essential compliments to practical experience in the leadership development process.

NOTES

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