



## Chapter 1

# A CULTURE OF INQUISITIVENESS

The whole art of teaching is only the art of awakening the natural curiosity of young minds for the purpose of satisfying it afterwards.

—ANATOLE FRANCE (1932, p. 238)

The events of September 11, 2001, have changed the lives of Americans and of people around the world for the foreseeable future. Now we know that we need to keep our eyes and ears open to ensure our safety and security. Part of our new awareness is being alert to those situations that may seem abnormal, perplexing, or full of uncertainty. Such situations usually lead us to ask “Why?” or “What’s happening here?” Anatole France saw youngsters as possessing a “natural curiosity,” and it is this curiosity that can help us become more vigilant as well as lead us toward those personal landscapes of growth that will enhance our lives. And the more our curiosity awakens us to new possibilities, the more we will open our eyes to life in our democracy and see whatever inequities may continue to exist. One of the benefits of inquisitive minds is focusing upon the extent to which our cherished liberties extend to all citizens.

To understand how this book focuses on inquiry, we can examine other events that might have led us to ask a lot of questions. See if you agree that there are similarities among all

of these episodes and that they lend an urgency to the contents of this book.

### **“Bonfire”**

On November 18, 1999, students from Texas A&M were building a three-story structure of timber they had cut down during that September and October. On that terrible Thursday, the log pyramid suddenly collapsed. Twelve Texas A&M students died; 27 more suffered injuries. There was no advance warning, as there seldom is for such a surprise disaster. There was no horrible storm, no tornado, no earthquake to set the assemblage of cut timber tumbling toward collapse.

Immediately, we want to know why this happened and how it could have been prevented. As we answer these probing questions, we encounter conditions that existed not only at this university but also in governmental agencies, in corporate America, and in our schools. What we discover is that our culture in many respects does not value one of humankind’s most cherished gifts, the gift that separates us from other living creatures—our inquisitiveness. Our curiosity about ourselves and the natural world is what helps us develop intellectually and spiritually and provides the fuel for the growth of civilization.

The massive 2,000-log construction at Texas A&M was to have been set on fire just before the traditional football game with archrival the University of Texas, as previous bonfires had been for generations of Aggies. “Bonfire,” as it was called, would rouse the student body toward victory and would represent the culmination of thousands of hours of work by the undergraduates charged with erecting it.

What happened?

The president of Texas A&M, Dr. Ray M. Bowen, ordered an investigation, and on May 2, 2000, the Special Commission on the 1999 Texas A&M Bonfire, headed by Leo Linbeck, Jr., as chair, issued its findings (Linbeck, 2000).

For decades, the administration had permitted students to work on Bonfire without proper supervision. “Student leaders made important design decisions and choices without

understanding their impact on structural integrity” (Linbeck, 2000, p. 27). Indeed, students worked from plans handed down on scraps of paper, and they, the students, lacked proper knowledge of building such immense structures (the log construction was about 80 feet high) and the forces that keep them stable.

Most importantly, the commission noted, “The university has a culture that instills bias and tunnel vision in decision making. *No credible source ever suspected or thought to inquire about structural safety*” (p. 37, emphasis added).

Therein lay the problem. No one thought to ask, “Is this safe? Do these students know what they are doing? Why are we encouraging this bonfire in the first place? What are the risk factors, and how can we manage them?” Writing in *The New York Times* on May 3, 2000, Jim Yardley summed up the commission’s report by referring to “an insular university culture that for years had resisted change and discouraged criticism” (p. A16). In other words, those in administrative positions of power did not create a climate or culture that encouraged continual inquiry and self-reflective assessment.

But Texas A&M administrators throughout the school’s history were not alone in their failure to create a culture of curiosity throughout the university.

### **A Question at NATO**

In May 1999, the North Atlantic Treaty Organization (NATO) was, according to Steven Lee Myers of *The New York Times* (April 17, 2000), “under tremendous pressure to escalate its war against Yugoslavia” (p. A1). In an attempt to bomb Serbian president Slobodan Milosevic into agreeing to withdraw Serbian forces from Kosovo and to provide safe haven for the Kosovars who had fled their homeland under pressure and threats from Serbia, NATO commenced a bombing campaign against the capital city. General Wesley Clark, the NATO supreme commander, demanded 2,000 targets in Serbia, a number many considered too high for a country the size of Ohio, reports Myers.

NATO enlisted the help of the Central Intelligence Agency (CIA), which hired an outside consultant, a retired Army officer,

to find a suitable target. The CIA designated one target as number 0251WA0017, “a large L-shaped building located in the Novi Beograd district of Belgrade” (p. A10). It was supposed to be a warehouse. When the CIA submitted its target to NATO, one unnamed officer, who had no authority to review targets, looked at aerial photos of the target and immediately became suspicious. The building didn’t look like a warehouse to him. The shape and the grounds made it look like some other kind of structure. According to Myers’s account, “At that point he raised his concerns with military officers in Naples, but he did not make his questions official or sound grave enough to remove the target from the list . . . . Then he left work for three days to attend a training session” (p. A10).

No one picked up on this officer’s questions, perhaps because it was not his job. Maybe he did not sound serious enough. It is also possible that once the CIA delivered a target, it came with such an aura of authority that no one thought to question it.

For whatever reason, NATO proceeded to bomb the Chinese Embassy, killing several people and ruining U.S.–Chinese relations for months.

### **A Few O-Rings on the Space Shuttle *Challenger***

Like many Americans, I can remember where I was on January 28, 1986, when the space shuttle *Challenger* exploded into two hideously white entrails of exhaust smoke billowing out over the Atlantic just seconds after liftoff. I heard NBC’s Tom Brokaw describe the tragedy in saddened monotones as I stood in a restaurant at lunchtime.

It wasn’t until the panel headed by former Attorney General William Rogers started investigating that some of us discovered that here was another tragedy that could have been averted had enough people heard the concerns of the manufacturer’s two primary solid booster rocket engineers. Temperatures at *Challenger*’s launch time were below freezing, and icicles hung from the booster rocket exhaust funnels. Two engineers, Roger Boisjoly and Arnie Thompson, questioned whether it was wise to

launch at the time. But their questions did not make it up the ranks to NASA officials or were disregarded. It was Nobel Prize-winning physicist Richard Feynman who asked these officials, in open inquiry sessions, if they had approved the launch. They said, “No” (Feynman, 1988, p. 163).

Chris Argyris observes in *Overcoming Organizational Defenses* (1990) that the *Challenger* accident is a case where engineers felt that questioning the managers’ reasoning to proceed with the launch was stepping outside their spheres of responsibility. In other words, the engineers who knew most about the booster rockets thought they could question only so far and had no right to know why management proceeded to launch *Challenger*. Questioning the thinking of those who make decisions was not part of the culture at NASA.

### **FBI Agent Coleen Rowley**

And, finally, we come to the terrible events of September 11 and the possibility of what might have been. Federal Bureau of Investigation (FBI) agent Coleen Rowley did question those in authority. She wrote a memo to FBI Director Robert S. Mueller III, raising questions about the bureau’s handling of the case of Zacarias Moussaoui, who had taken flying lessons in the United States during which he exhibited strange behavior, like focusing on flying in midair and not learning how to land or takeoff. After Moussaoui’s arrest on immigration charges on August 17, 2001, and after French intelligence warned the FBI of his alleged ties to al Qaeda, field agents in Minneapolis wanted permission to investigate Moussaoui’s computer hard drive. However, officials at FBI headquarters and the Justice Department decided there was not enough evidence for a warrant. Here were dots that might have been connected, but the FBI did not pursue the lead.

“I do find it odd,” Rowley writes in her memo to the director in May of 2002, “that . . . *no inquiry whatsoever* was launched of the relevant FBIHQ personnel’s actions a long time ago about this case” (Rowley, May 21, 2002, emphasis added).

Realizing that transforming the FBI was a formidable task, New York Senator Charles Schumer asked Rowley before the

Senate Judiciary Committee on June 6, 2002, "How do you change the culture. . ." of the FBI? Rowley replied, "I go back to the 'don't rock the boat, don't ask a question' problem." Any question, she said, might be perceived as a "complaint," or "as a challenge to somebody higher up and they may get mad or whatever" (Excerpts . . . , 2002).

Agent Rowley did what so many whistleblowers have done; that is, they raise tough questions about performance and practice. This is not what was done, however, during the financial scandals that rocked corporations like Enron and WorldCom and sent the New York stock market plummeting during the summer of 2002. Executives, accountants, and reporters, by and large, failed to question the operating practices of large corporations and accounting firms like Arthur Andersen. One analyst noted, "You couldn't ask hard questions, because it was viewed as offensive" to Enron executives (Smith, 2002, p. C17). One auditor from Arthur Andersen who did ask probing questions about Enron's JEDI partnerships in 1999 was Carl Bass. Enron complained and Bass responded, "I am not into negotiating with the client over accounting" principles. Subsequently, he was removed from the Enron account (Hamburger, Schmitt, & Wilke, 2002, p. C1).

People who ask "hard questions" too often have been fired because of their challenges to accustomed ways of thinking and doing business.

In these incidents, we have specific examples of what is occurring in society and in schools: Not enough people are asking questions or voicing their suspicions or apprehensions about policy, practice, and performance.

### Reflective Pause

*At various points in our narrative journey I will pause and ask that you reflect on what you have just read. We know that good readers are actively thinking and questioning what they read, so my intent is to engage our minds about the text as fully as possible.*

*So let us begin our reflective pauses with these questions:*

- *Given the events just described and those of September 11, 2001 (see the Preface), do you see patterns in some segments of society?*
- *How would you explain the seeming lack of a culture of inquisitiveness among some of us?*

### Feeling Threatened by Questions

One seemingly superficial reason we don't question things is that being questioned about anything often leaves some of us feeling uncomfortable. We are threatened by questions, fearing loss of control of the decision-making process or over the entire situation. I once asked a high school teacher why he seldom posed open-ended questions where students would have to respond with their own ideas. "I'm afraid they'll get out of hand," he said.

Our egos are sometimes affronted by upstart questions that may reveal weaknesses in our knowledge and performance. One recurring fear that many of us have is that someday the world just might discover just how little we know!

Richard Hofstadter, writing in *Anti-Intellectualism in American Life* (1966), notes that early in U.S. history, certain religious groups feared education because it would reduce children's "reverence for parental values and religion" (p. 126). The same is true today, with some believing that too much learning and too many questions might undercut and diminish the role of those in authority—parents, teachers, or CEOs. During the latter decades of the last century, there were folks who thought that the curriculum ought to clearly differentiate between right and wrong. Not much room there for student questions and doubts.

When I have asked college students what facilitates the culture of inquiry in their classes, they often laugh and tell stories of professors saying, "I will determine which questions are worth answering here" or "I ask the questions in this classroom." Both statements mean that the students' role is to sit quietly, listen, take in the information, and then someday repeat it in more or less the same form on an answer sheet.

## Preserving the Status Quo

Another causal factor in hesitating to ask questions is what is exemplified in the Texas A&M situation—the authority of accumulated tradition: “We’ve done it this way for all these years, so why change?” I’ve heard this argument in schools many times. When some of us encounter proposals for change, we respond, “But we’ve always done it this way.” Fear of change and the unknown are some of our most powerful disincentives to taking action. We know our routines and we cannot predict or control what might occur if we change them.

A different facet of this social conservatism is the “Quigley” factor. Frank McCourt in his novel, *Angela’s Ashes*, describes his catechism class where one of the boys asked, “What’s Sanctifying Grace?” This student was “questioning Quigley,” as the boys called him. Upon hearing these kinds of questions, the good priest went into a tirade about the status of those who ask them:

Never mind what’s Sanctifying Grace! That’s none of your business. You’re here to learn the catechism and do what you’re told. You’re not here to be asking questions. There are too many people wandering the world asking questions and that’s what has us in the state we’re in and if I find any boy in this class asking questions, I won’t be responsible for what happens. Do you hear me, Quigley? (p. 118)

Quigley got the message: Do what you’re told and preserve the status quo.

## Cultural Inhibitions

Have you ever wondered why certain societies seem to advance more steadily and dramatically than others? Why, for example, does the United States garner so many more Nobel Prizes than other countries?

Is it the school system?

Is it something in the nature of how children are raised?

Are there few socially acceptable mechanisms for criticism?

There are probably several possible answers, but one that recently struck me as relating to our discussion came from a renowned climate physicist, Syukuro Manabe, who was born in

Japan and spent most of his life working in the United States: “The reason we have difficulty establishing a peer review system has to do with a kind of an Asian culture. You don’t want to speak openly in criticism of someone else’s work. It is a kind of a mutual admiration society, and that has real consequences.” Another scientist, Okamoto Hitoshi, an expert in vertebrate development, notes that in Japanese schools, “Teachers still tell you that eloquence may be silver, but silence is golden” (French, 2001, p. A6).

It is significant that within our American scientific community there are expectations that all reasoning is to be challenged. Part of being a scientist is knowing that whenever you draw conclusions, they are openly questioned. Whenever we read of scientific discoveries or breakthroughs in the newspapers, there is usually a reference to one or more dissenting voices who say, “Wait a minute! We do not necessarily agree with these findings. Here are our questions.” Albert Einstein is reputed to have said that he expected his theories to be questioned because that would bring him and everyone closer to a more accurate understanding of how nature works. Doing and learning in science (and the humanities) are a process of continual questioning, debate, reconsideration, and drawing tentative conclusions from evidence. This is not, however, the way in which we teach it!

Our legal system in the United States is built on adversarial confrontations. We do not accept one person’s version of what happened. We ask hard questions of all witnesses in order to allow juries to draw their unbiased conclusions about the truth of what may have occurred.

My intent in this book is to break the golden silence of acceptance and allow our inquisitiveness to flourish and begin to mold our entire culture beyond what already exists in our scientific, legal, and media communities.

## Acting “Like Cattle”

Finally, we can look to ourselves—those of us who gladly accept our subservient roles and do not question. Why? Because we prefer that others make the decisions, thereby absolving us of responsibility. We are more comfortable, says Fyodor Dostoevsky

through his Grand Inquisitor in *The Brothers Karamazov* (1880/1995, p. 309), being led around “like cattle,” not exercising our free will.

In *Escape from Freedom* (1941/1995), Erich Fromm provides one perspective on the rise of the Nazis in Germany and on other authoritarian regimes by observing that some of us willingly submit our wills to that of a superior power. “It seems that nothing is more difficult for the average man to bear than the feeling of not being identified with a larger group” (p. 234). We can see such identifications in our society today, and these relationships tend to reduce our sense of individual responsibility. We are following a superior group or leader, one we do not question.

Alexis de Tocqueville notes a similar phenomenon in his 1835 masterpiece *Democracy in America* (1835/2000). In a democracy with “the principle of equality . . . the human mind would be closely fettered to the general will of the greatest number” (p. 521). We can argue with his observations of our early democracy, but we do hear the phrase “the tyranny of the majority,” and just maybe there is truth in his observation that some of us give undue deference to the judgments of the majority. De Tocqueville goes on to observe that some of us do not engage in deep analytic thought because we have a tendency toward “easy success and present enjoyment” (p. 526). We are, in effect, somewhat lazy and driven by other “interests,” namely, the pursuit of wealth.

### “Rude Questions”

All of these elements are evident in what we call “the command and control” structure of organizations: family, schools, and businesses. Those at the top of the organizational chart—parents, teachers, and CEOs—are accustomed to ruling through our decisions alone. We govern by the power inherent in our roles; we know what’s best because of our experience, training, and intelligence. We have access to knowledge that will ensure good decisions and those below do not.

As Lewis Lapham (2000) notes, we as a nation do not want things to be different. We fear the “active intelligence [that] tends to ask too many rude questions . . .” (p. 9). Some educational

theorists go so far as to claim that schools, as presently constituted, perpetuate the race and class divisions already inherent in society. The “savage inequalities” noted by Jonathan Kozol (1992) have existed since the 19th century; students who challenge authority, who ask impertinent questions about what they are learning and about their passive roles in schools might just upset this balance of power. “The schools as presently constituted,” says Lapham, “serve the interests of a society content to *define education as a means of indoctrination and a way of teaching people to know their place*” (p. 7, emphasis added).

Critics of schooling have long observed that schools socialize students into already existing socioeconomic strata. We have known since the 1970s that teachers do most of the talking in class, and most of that talk is telling. When teachers do ask questions, they have mostly been short-answer, recall kinds of questions. Dillon (1988) observed that students pose very few questions related to content during their classes. Have conditions significantly changed since then?

And the existing language patterns in classrooms support their contention that many, if not most, students are not challenged to think productively or to challenge the status quo with thought-provoking questions.

### Reflective Pause

*Now, why do you think it is important for us to foster and develop inquisitiveness in our children and students? Why do we want them curious about the natural world, life in our democracy, and their personal and professional lives?*

## The Importance of Inquisitiveness

### Life’s Purpose

In Alice Walker’s searing novel, *The Color Purple*, a young black woman, Celie, becomes the wife of a man who is simply called “Mr.” throughout the story. At first “Mr.” mercilessly abuses Celie

physically and sexually as she struggles to care for his children. Finally, as the two opponents grow older, they achieve a reconciliation of sorts during which “Mr.” makes this extraordinary claim: “I think us here to wonder . . . to wonder . . . about the little things as well as the big things” (p. 290).

“Mr.” has finally figured out that our lives are not necessarily governed by our physical appetites but by the innate naturalness of being curious, trying to fathom what life is about and why the crops do or do not grow in a given season.

### Curiosity Stimulates Intellectual Development

Pat Wolfe and Ron Brandt (1998) note that “*the brain is essentially curious*, and it must be to survive. It constantly seeks connections between the new and the known. Learning is a process of active construction by the learner . . .” (p. 11, emphasis added). It seems as if at birth we are endowed with the mechanisms and dispositions to discover the world and to make it a meaningful place in which to live. Without a desire to look, to explore by hand, mouth, eye, and ear, we would not grow up to be the human beings we are.

Marion Diamond, one of the United States’ foremost neuroanatomists, notes that brain growth is the result of interacting with enriched environments. These enriched environments are characterized by

- Novel challenges,
- Opportunities for free choice and self-direction,
- Stimulation of all the senses,
- Pressure-free social interaction, and
- Experiences of self-assessment. (Diamond & Hopson, 1998, p. 108)

What Diamond and Hopson identified are the elements that characterize a good play environment, full of novelty or strangeness, that challenges children to think, to ask questions like “What is this? What can we do with it? Can we make it into something we want and like?” Questions like these lead to individual or group sociodramatic play—House, Doctor, Construction, and

so forth. From such research we can infer the basis for designing curricular experiences full of complexity, novelty, and challenge. Such experiences can be formed around problems to solve, rather than creating laundry lists of information to be mindlessly memorized.

Studies recently revealed that our brains do not necessarily deteriorate in later life. A good regimen of learning new subjects and exploring different challenges can continue to stimulate the brain and even lead to growth of neurons. Diamond and Hopson note that our brains possess “neural plasticity,” a flexibility that allows us to grow and develop well into maturity (Wolfe & Brandt, 1998, p. 11).

No wonder that Samuel Johnson, writing in *The Rambler* (1751), notes, “Curiosity is one of the permanent and certain characteristics of a vigorous mind.” Our minds thrive upon the driving process of inquiry—our striving to find and figure out what seems strange, unusual, or novel.

### Leonardo’s Fossils

Leonardo da Vinci is often viewed as the quintessential Renaissance artist, creator of the *Mona Lisa* and *The Last Supper*, designer of the first flying machine in his notebooks, and an engineer of water systems. He also might be credited with asking the kinds of questions that led to present-day studies of geology. Wandering around the hills of Tuscany, not too far from Florence, Leonardo made an amazing discovery: fossilized seashells.

When he reported this find to his friends, they said, “Oh, they must have blown up there.” Or, a current theory suggested, they were driven upwards by “the violent currents of Noah’s flood” (Gould, 1998, p. 26).

But Leonardo rejected that possibility. Had they blown up there, some would be chipped and cracked. No, there had to be another explanation. How could elements from the bottom of the world’s oceans find their way to the top of high hills? That was the question that led Leonardo to consider that Earth was not a

stagnant, dead mass of rock, but an everchanging, dynamic sphere. There had to be cataclysmic forces at work that raised up sea floors to the heights of mountains. Leonardo didn't know what they were.

Today we know that the Earth is composed of massive plates on which the continents rest, that these plates move—incredibly slowly to be sure (a few centimeters a year!)—and that mountains rise up as the result of collisions (the subduction) of plates, as in the Himalayan Range. Leonardo knew nothing about these subterranean forces that cause volcanoes and the formation of new landmasses, as with Hawaii's Mt. Kilauea.

Curiosity in Leonardo's case came in the form of recognizing something strikingly novel and wondering about it. Others just passed by those fossils, saying, "Oh, they just blew up here!" The problem of "fossils of marine organisms in strata on high mountains" had perplexed observers since the days of classical Greece. Leonardo's explanation focused on the movement and erosive powers of water, not on the dynamic forces within Earth that move the continental and oceanic plates (Gould, 1998, p. 43).

All learning progresses with this kind of natural curiosity about the world.

### "Skepticism Is a Virtue"

Richard Feynman, the Nobel laureate in physics, was a member of the committee that investigated the *Challenger* space shuttle disaster. He was curious enough to place one of the solid booster rocket's O-rings in a glass of ice water and observe the results. What he found was that at low temperatures, these rings became brittle and snapped. Feynman thus demonstrated that low temperatures at launch time at Cape Canaveral played a major role in the *Challenger's* explosion not too long after liftoff (Gleick, 1992). Feynman (1999) made some observations that expose the very roots of science:

It is our responsibility as scientists, knowing the great progress and great value of a satisfactory philosophy of ignorance, the great progress that is the fruit of freedom of thought, to proclaim the value of this freedom, to teach how doubt is not to be feared but welcomed

and discussed, and to demand this freedom as our duty to all coming generations. (p. 149)

We should be proud to say, "I don't know!" Too often we are embarrassed by our ignorance. Unfortunately, schools do not always nurture that sense of being in a state of doubt and then searching for answers.

Even more, we should recognize when someone tells us something that perhaps we do not have to believe it—that, for example, surplus funds in the federal budget ought to help sustain Social Security. We should be ready with questions that would help us resolve our doubts and disbeliefs. Doubts should lead to questions, and this is what should be at the basis of living in our democracy: the freedom to question, to raise the possibility that there might be better ways to do things than the ways that are being proposed or implemented.

When we talk about schools educating citizens to live in a democracy, surely we are talking about the duty to question authority, to raise doubts about government policies, to express apprehensions about practices with which we do not agree. The government is *us*, and unless *we* question, we will end up in a dictatorship of the powerful over the apathetic, the passive, the led. This is what Dostoevsky's Grand Inquisitor in *The Brothers Karamazov* told the Christ figure who returned to Spain during the Inquisition: people do not want to make choices; they want to be "led like cattle" and to be told what to do. "Man's greatest need on Earth," said the Inquisitor, "is the need to find someone to worship" (1880/1995, p. 310).

Some people think that, in times of crisis, to question is unpatriotic. The point of view is that dissent can "give ammunition to America's enemies and pause to America's friends" (Ashcroft, 2001, p. 7). This, however, is the essence of democracy—the lively discussion and debate of all ideas and the questioning of authority. Leaders who fear dissent need to realize that what the United States stands for is freedom of opportunity and expression, even to the point of defending those who would burn the U.S. flag and march in our streets carrying flags of our enemies.

An advertisement on buses in New York City says, "Skepticism is a Virtue." Yes.

## Izzy and the Road to Success

The late Isidore I. Rabi was a renowned nuclear scientist. In 1944 he won the Nobel Prize in Physics for his work on the electrical characteristics of the electron. During World War II, he worked on the Manhattan Project, helping to build the first atomic bombs.

Someone once asked him how he grew up to be a physicist. He answered:

My mother made me a scientist without ever intending it. Every other Jewish mother in Brooklyn would ask her child after school: "So? Did you learn anything today?" But not my mother. She always asked me a different question. "Izzy," she would say, "did you ask a good question today?" That difference—asking good questions—made me become a scientist. (Sheff, 1988, p. A26)

If Izzy's mother had not encouraged him to follow up on his curiosities, perhaps he would not have gone on to MIT or done his prize-winning research.

Izzy's mother is really the reason why I am writing this book. She and Anatole France had the right idea. Curiosity should be the focus of education, and every day we should be challenged with novel experiences that beg us to pose wondrous sorts of questions.

But often our experiences with schooling do not reflect the concerns of Izzy's mother. We do not fashion our learning environments or our curricula to stimulate our children's curiosities. And very often, when they do raise fascinating questions, we have no strategies for incorporating them into our busy schedules made more demanding with the press to prepare for standardized tests that increasingly sap our instructional strength.

My own education outside of school has been characterized by intense inquiries about a strange and mysterious land, a continent enshrouded in mystery to the depths of two to three miles of ice, isolated at the bottom of the world, inhabited now by scientists trying to figure out questions about the solar system, the warming of the planet, and its effects on polar wildlife. This continent is, of course, Antarctica. I have spent many, many long hours trying to find out what explorers like Captain Robert

Falcon Scott, Roald Amundsen, and Admiral Richard E. Byrd did during their expeditions at the beginning of the last century. I was so captivated by their experiences when I was in the 7th grade that I started reading about their adventures. I wrote them letters, and met Admiral Byrd when I was 14. Eventually, I sailed to Antarctica myself, and to this day I am fascinated by scientific discoveries of geology, paleontology, and biology that affect the south polar regions.

But my life has not been a brilliant testimony to curiosity. Sad to say, I grew up with such respect for authority that I never questioned it. During the 1960s I saw the Volkswagen Beetles on the road with their anti-establishment bumper stickers demanding, "Question Authority!" I just laughed. Reverence for authority was just too ingrained within me. My life, perhaps, reflects the observations of Erich Fromm and Alexis de Tocqueville when they spoke of the need some of us feel for identification with large groups, with the majority. Many of us are conformists without really intending to be such.

And to this day, there are questions I do not ask in interpersonal situations, perhaps because of deep residues of anxiety about the answers or just my apprehension about being rebuffed.

## Conclusion

So here is a book on inquisitiveness for all of us who care about educating the young to grow up to be thoughtful citizens who can use their imaginations to wonder, to speculate about possible futures, and to critique all these new ideas with the rigor of young scientists. These were the twin goals of education set forth by Carl Sagan: "Both skepticism and wonder are skills that need honing and practice. Their harmonious marriage within the mind of every school child ought to be a principal goal of public education" (1996, p. 306).

There is an urgency about education for inquisitiveness just now that stems from the events of September 11. No longer can we abide raising children who do not ask appropriate questions of themselves, of others, and of the world. We need an educated citizenry, and this means that we all need to be alert. Yes, we

need to look around us for those persons and events that might harm us.

But more than mere vigilance, we need young men and women who are wide awake to the possibilities of alternative futures. Adults cannot presume to have fashioned a world that our children and students would wish to grow up in. We need inquisitive people to grow into this new millennium who can ask those rude questions so many of us shy away from. These questions will open new landscapes for exploration and discovery. Perhaps of even more significance, such questions will help move our society toward those days when all our citizens will enjoy the benefits of those sacred freedoms preserved in the Bill of Rights—freedom to doubt, to question, to worship, speak, write, and form communities of like-minded persons.

As Anatole France said, “The whole art of teaching is only the art of awakening the natural curiosity of young minds.” That is what this book is about.

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