2002 INDUCTION CEREMONY

On October 5, 2002, the Academy welcomed its 223rd class of members at an Induction Ceremony at Harvard's Sanders Theatre. Nearly 75 percent of this year's class of 177 Fellows and 30 Foreign Honorary Members attended. An overview of the ceremony was published in the Fall 2002 edition of the Academy's *Newsletter*.

President **Patricia Meyer Spacks** (University of Virginia), Vice President **Louis Cabot** (Cabot-Wellington, LLC), Secretary **Emilio Bizzi** (MIT), and Executive Officer **Leslie Berlowitz** congratulated each of the new members in turn. Six inductees addressed the membership on the challenges facing the world and the Academy at the beginning of a new century: cosmologist **Edward W. Kolb** of the Fermi National Accelerator Laboratory and the University of Chicago, medical researcher **Nancy Andreasen** of the University of Iowa, historian and dean **Philip S. Khoury** of MIT, novelist **Chinua Achebe** of Bard College, news analyst **Daniel Schorr** of National Public Radio, and US Senator **Edward M. Kennedy** of the Commonwealth of Massachusetts. Their remarks appear below, in the order presented.

Edward W. Kolb

In this hyperspecialized and finely partitioned modern world, there is precious little contact between the sciences, the humanities, the arts, and government. One of the hallmarks of this Academy is that it brings together artists, writers, scientists, and politicians so we can stand together, arms locked in camaraderie, and present a united front for the arts and sciences.

I would like to make some remarks about connections between seemingly unrelated investigations. The great American naturalist and conservationist John Muir said, "When you tug on a single thing in nature, you find it connected to the rest of the universe." Organizations may divide the sciences into departments, from astronomy to zoology, but Nature herself is not so neatly partitioned. As Muir said, everything is connected to the rest of the universe.

Edward W. Kolb (Fermi National Accelerator Laboratory and University of Chicago).

The most exciting research areas in the sciences are interdisciplinary. It's a magic moment when people realize that single things they are tugging on are a common thread in nature's tapestry. We seem to be in the midst of such a realization in the study of the universe.

As a cosmologist, I study the largest objects in the universe—galaxies and filamentary structures hundreds of millions of light years across. But I work at Fermilab, a particle accelerator laboratory, where we probe the smallest things in the universe—quarks and other fundamental particles and forces. The remarkable fact is that to understand the largest things, we must study the smallest things. We believe that galaxies and everything else in the cosmos arose from the action of submicroscopic forces in the first billionth of a second after the big bang. We can't understand galaxies without understanding quarks. Tugging on quasars connects us to quarks.

Modern cosmology began a hundred years ago in Bern, Switzerland, when a Swiss civil servant—a technical expert third class, working in the patent office—scribbled some equations on a piece of paper and started down the road to relativity. The discoveries of Albert Einstein sparked the scientific revolution of the twentieth century. They rank among humanity's greatest achievements. They are

part of the framework for our understanding of the origin and evolution of the universe.

The development of the big bang model by Einstein and others was a triumph of twentieth-century science. We now understand the evolution of the universe from the time of the bang, 15 billion years ago, until today. In spite of the great successes of modern cosmology, I believe that as we start the twenty-first century, we are poised for a sweeping revolution in our understanding of the universe.

The reason I think we are on the verge of a new revolution traces back to, of all things, an accounting irregularity—one that makes recent accounting issues look like small change. I don't want to alarm you, but 95 percent of the mass and energy of the entire universe seems to be missing. Well, it's not exactly missing—we know it is there, because we can measure its effects—but it seems to be invisible.

This is a story that has been unfolding since 1933, when astronomers first suspected that there was much more to the universe than meets the eye. Striking recent observations confirm that the neutrons, protons, and electrons of which we are made comprise just a few percent of the total mass of the universe. It seems that most of the universe is in the form of an undiscovered elementary particle.

In 1543 the Polish astronomer Nicholas Copernicus proposed that Earth is not the center of the solar system. In 1918 the American astronomer Harlow Shapley, a former president of the American Academy of Arts and Sciences, proved that our solar system is not the center of our galaxy, and in 1924 the American astronomer Edwin Hubble discovered that our Milky Way galaxy is but one of billions in the universe. Perhaps we have finally reached the end of the Copernican revolution. Not only are we not at the center of the universe, but also, the very stuff of which we are made is only a very small fraction of the matter of the universe.

Just when we started to face up to the possibility of invisible matter, in 1998, astronomers uncovered evidence that the universe is being pulled apart by

a mysterious dark pressure force. It seems that every nook and cranny of space is full of a new type of dark energy. If this is true, each liter of space contains a million volts of dark energy.

Thankfully, cosmic accounting irregularities are not a scandal but an opportunity. Unlocking the secrets of dark matter and dark energy may spark a new revolution as far-reaching as Einstein's. Perhaps there are more than three dimensions of space. Infinite, hidden dimensions may be awaiting discovery. Or maybe the fundamental building blocks of nature are not particles after all, but extended objects we call strings. Perhaps there is more to gravity than Newton or even Einstein imagined. Whatever the explanation, it is certain to involve the interplay of nature on the smallest scales and on the largest scales.

As a theoretical physicist, I am paid to make predictions, so I'll predict that in five years the dark matter and dark energy will be understood to result from the existence of dimensions of space we have yet to explore. I could also predict exactly how this remarkable discovery will revolutionize philosophy, art, religion, government, technology, and everyday life, but I see that my five minutes are up.

President Patricia Meyer Spacks (University of Virginia), Vice President Louis Cabot (Cabot-Wellington LLC), and Secretary Emilio Bizzi (MIT).

As a representative of the biological sciences, I'd like to speak briefly about the importance of integrity—particularly integrity in the twenty-first century. A comment made by Albert Einstein in a lecture at the California Institute of Technology will provide a context for my remarks: "Concern for man himself and his fate must always be the chief interest of all technical endeavors . . . in order that the creations of our mind shall be a blessing and not a curse to mankind." Einstein, above all, understood the promises and the perils of science.

Why integrity? Because the essence of its meaning—derived from *integer,* or oneness—provides us with a compass that we may use to navigate between the perils and promises that we will confront in the biological sciences during the twenty-first century. It may serve to remind us that we must seek, achieve, and teach integration rather than divisiveness, and that our decisions today must be shaped by a recognition that we all share a oneness with humanity, here on the one planet on which we live, now and for what we all hope will be many future generations.

Einstein's century was the century of physics. Basic and applied physics have given us many things: airplanes and spaceships, telephones and television, computers and compact discs, nuclear power and nuclear weapons. In the year 2002 we can communicate with one another, and also harm one another, in ways that we would never have dreamed of in the year 1902.

Our century is likely to become the age of biology. At the fine-grained level of cells and molecules, we have launched the twenty-first century by mapping the genome. This accomplishment, much touted in the media, is exceedingly modest in comparison with what is yet to be done. We are already beginning to perceive just a few of the sensational (and sensationalized) implications, such as the ability to clone sheep or human beings. The science of molecular biology offers us many benefits. We can potentially replace damaged genes or damaged cells

Nancy Andreasen (University of Iowa).

in order to treat, and perhaps even cure, a variety of diseases: cystic fibrosis and multiple polyposis, Parkinson's disease and Alzheimer's disease, cardiac disease and cancer. We will also be able to summarize the biological contents of every individual human being by the ultimate identity card: a profile of the individual genetic mutations that uniquely characterize each of us, or single nucleotide polymorphisms (SNPS), colloquially referred to as "snips." This summary of personal genetic endowment is a quintessential definition of what each person actually is, or is going to become, at the biological level. Will we know how to use this and other genetic information wisely, once we have it?

At a higher level, we are also mapping the human brain, using the tools that I happen to pursue. Technologies such as magnetic resonance imaging and positron emission tomography permit us to look inside the human head and literally watch the brain think and feel. Within a few minutes after obtaining a magnetic resonance scan, we can give someone a picture of her brain and tell her its size in cubic centimeters, how much of it is gray matter, and how much is white matter. Only a few years ago, such vivid pictures of the whole brain surface could be obtained only after death. Now we can obtain these measures in living human beings, repeat them every year if we wish, and plot

how the brain is growing in young children or shrinking in older people as they age. We can see the brain shift its blood flow to multiple interconnected regions when people perform the many complex mental tasks that make us human—remembering the past, planning the future, feeling joy or sorrow. Through magnetoencephalography we can even watch this happen in real time, observing how the visual cortex records an image of a face and then passes it on to areas such as the frontal or temporal lobes so that the brain can recognize whose face it is. We can also see how the brains of people with illnesses such as schizophrenia, Alzheimer's disease, or autism perform these mental activities differently. Someday these imaging tools may permit us to predict who is likely to become ill even before the illness itself begins. Such measures of personal brain endowment may also someday tell us not only what each person is, but also what that person is going to become, at the biological level. Again, will we know how to use this information wisely, once we have it? Will we use it to prevent diseases and develop new treatments, or will we use it to find more sophisticated ways to discriminate against and stigmatize the unfortunate people who have or will develop brain illnesses, such as schizophrenia?

We biological scientists are being inducted into the American Academy of Arts *and* Sciences, not arts *or* sciences. C. P. Snow warned many years ago about the dangers of creating "two cultures," the culture of the humanities and the culture of science. My own personal journey has taken me from being a young professor of Renaissance English literature to now being a somewhat older physician and neuroscientist. Although people sometimes comment on how disparate these two careers are, I find that I am sustained by my training in the humanities on an almost daily basis as I perform my activities as a scientist. In order to use wisely the enormous biological knowledge that we will develop in the twenty-first century, we must create a healthy integration between domains such as philosophy or history and domains such as molecular genetics or neuroscience. Ultimately, we will find

the integrity that we need to exploit the promises and avoid the perils of modern biology by creating a unified discourse between the two cultures embodied in this Academy—the cultures of the arts and the sciences.

This sense of our twenty-first-century need for oneness, integrity, and integration—whether it be a unity of past, present, and future, of I and thou, or of arts and sciences—is beautifully expressed by William Butler Yeats in the final lines of one of my favorite poems, "Among School Children":

> O chestnut tree, great-rooted blossomer,
> Are you the leaf, the blossom, or the bole?
> O body swayed to music, O brightening glance,
> How can we know the dancer from the dance?

Philip S. Khoury

I have been asked to speak on behalf of the humanities and social sciences. As a historian, I am part of both, though I must admit that I am also somewhat out of fashion in each. For instance, I belong neither to the wing of the humanities associated with cultural studies nor to the wing of the social sciences that applies mathematical and other methods of measurement to the study of socioeconomic and political behavior. But as an academic administrator responsible for the humanities and social sciences at my university, I have greatly benefited from the opportunity to read and debate with colleagues belonging to these two very different approaches to learning—approaches that in some sense constitute the methodological bookends of the humanities and social sciences.

I think that one of the most difficult challenges facing the humanities and social sciences in this trying period in our country's history is how to raise the level of awareness of cultures other than our own, and especially of so-called non-Western cultures, which I shall refer to as "distant cultures." As an area studies specialist, I have thought about

Newly elected Fellow Philip S. Khoury (MIT).

this challenge for many years, but never with more urgency than in the past year.

For all that the forces of globalization have done to make our world visibly interdependent, and for all the information and knowledge-sharing that the technologies underpinning globalization have produced, it is quite remarkable how parochial we Americans still seem to be in our understanding of distant societies and, by extension, in our interactions with some of them. There are reasons for this parochialism: the vast size of the United States and its historic self-containment; our comparatively recent involvement with much of the rest of the world outside of Europe; and our tendency to judge other societies in terms of how they resonate with our two most cherished values of individual freedom and democracy (even though we have tended to suspend their promotion abroad when they conflict with our strategic and material interests).

In the wake of the monstrous tragedy of September 11, Americans—in spite of shock, anger, and puzzlement—have begun to express an unprecedented (in my experience) desire for information and analysis about the complex and diverse cultures and societies of the Middle East and the wider Islamic world, and even beyond. Unfortunately, what the public has mainly had to rely on are simplistic theories and frameworks of interpretation

that view the world in terms of opposites, of backwardness against progress, of clashing civilizations, of the forces of evil against the forces of good. Meanwhile, those who have other knowledge and who have long rejected simplistic theories and frameworks for more richly nuanced portraits of distant cultures are seemingly incapable of rendering them intelligible to the public. Why? In part because our specialized, rather insular training has hindered the development of sufficient numbers of synthesizers and generalizers among us, and in part because those who have such capacities have not managed to gain regular access to our country's major channels of communication.

The challenge, then, is to bring greater understanding of distant cultures and societies to an American public whose curiosity is growing. Our interpretations must be critical and unapologetic, but they must not presume that cultures other than our own are inferior or are bent on undermining our values and traditions, September 11 notwithstanding. In this way, we will contribute to making ourselves more responsible citizens and to raising the quality of debate within our government and policymaking circles. And in this way we will be able to send to the sidelines both the cultural chauvinists and the romantic apologists who are lowering the quality of public discourse in this country.

I would note that at the very time that we, as Americans, are trying to increase our awareness of distant cultures, we are trying even harder to locate and reassert our own core values. We are doing so not only in reaction to the "attack against America" but also in reaction to an attack from within America by some whose enormous personal greed has shaken our confidence and trust.

Any one of us whose business it is to study societies other than our own knows that it is impossible to do so without revisiting our own values and traditions. I would suggest that in these unsettling times, there is an unusual opportunity to connect our desire and need to better understand distant cultures with our desire and need to examine and assert our own fundamental values.

Let me conclude by circling back to the humanities and social sciences. Many of us gathered here today know that the value of a liberal arts education has been diminished in the past quarter-century. The humanities and related social sciences are less influential in our educational system and in our wider society than they once were. There are complex factors behind this loss of status and importance. We humanists and social scientists bear some of the responsibility for not making our learning more accessible to the public and for not battling effectively the spread of narrowly oriented technical training within our institutions of higher education. My hope is that by accepting the responsibility to increase awareness of and engagement with more distant cultures and societies, and by linking this effort to a reexamination of our own history and increasingly rich and diverse culture, we can strengthen the position of the humanities and the social sciences, and of liberal education generally.

The American Academy of Arts and Sciences, of which I feel privileged to be a member, is already taking the lead in making the case for the humanities through its Initiative for the Humanities and Culture. Perhaps the Academy would also consider taking up the challenge of how to effectively transmit learning to the American public about distant cultures and, by extension, how to develop connections between this learning and the ongoing reexamination of our own social and cultural

Visiting Scholar Andrew Jewett with newly elected Fellow Anne-Marie Slaughter (Princeton University).

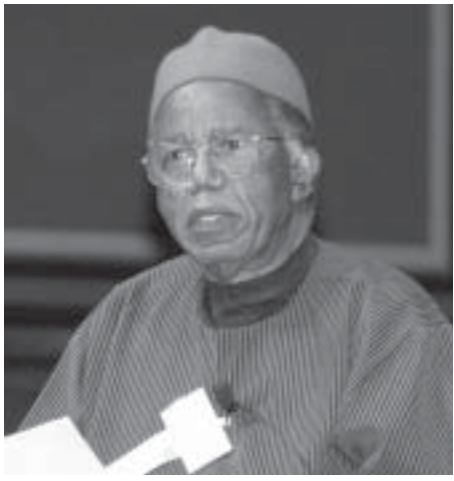
underpinnings and historical development. And while we are at it, shouldn't we consider how to more effectively transmit learning about American society, traditions, and values in a critical and unapologetic manner to those very same distant societies that we need to know much more about? They are no less in need of knowing us than we are of knowing them. By so doing, we might at long last produce a genuine dialogue of cultures.

Now, that's at least a double challenge!

Chinua Achebe

Three years ago, here in Cambridge, Ernest Hemingway's African writing was considered sufficiently important and interesting by the organizers of his centennial celebration to deserve a panel of its own, called "Writing Africa." I was on that panel, as were Nadine Gordimer, K. Anthony Appiah, and two Americans. One of the major themes of our discussion was Hemingway's apparent lack of real interest in his African characters. Professor Appiah contrasted, to good effect, the elaborate attention Hemingway pays to what goes on in the mind of a wounded and vengeful lion in the short story "The Short Happy Life of Francis Macomber" with the absence of any concern for what goes on in the minds of the African servants who serve the whiskey and carry the guns for the white hunters on safari. At question time, a young woman, clearly offended by our criticism of Hemingway, asked how *we* would write Africa. I replied, "Read our books." I doubt that she rushed away to follow this advice.

If I had to deal with that challenge again, I would be more patient. I would tell that young woman that what African writers do is take stories of Africa written by Westerners and stand them on their heads by giving center stage to those servants who bring the whiskey and carry the guns, as Nadine Gordimer does in *July's People* and as I do in everything I write. In dealing with the gigantic problem of using a European language as a medium for writing Africa, I have rejected the exotic broken



Chinua Achebe (Bard College).

English preferred in Europe's tradition of so-called African romances. The English language has as many dialects as anyone could wish, from that used in the King James version of the Bible to countless varieties of authorized and unauthorized speech. I have chosen a version of English capable of matching the eloquence and gravitas of the speech of African elders. If you read the kinds of books I read growing up, in which African savages are presented, you will remember that they have no speech; they howl, screech, make all kinds of other noises.

What I heard growing up in my village was different, and that's what I write about. I'm going to read you a short passage* from my first novel, *Things Fall Apart,* about an event in the life of the character Okonkwo. Okonkwo is in deep trouble. He is exiled from his community. He flees to his mother's village far away and is received by his uncle, Uchendu, but he is in great despair. The uncle, seeing that Okonkwo is heading for deeper trouble, calls a meeting of the kindred to give advice to Okonkwo:

---

*Reprinted from *Things Fall Apart* by Chinua Achebe. Copyright © 1958 by Chinua Achebe. Published in North America by Heinemann, a division of Reed Elsevier, Inc., Portsmouth, NH. Reprinted by permission of the author and publisher.

On the second day Uchendu called together his sons and daughters and his nephew, Okonkwo. The men brought their goatskin mats, with which they sat on the floor, and the women sat on a sisal mat spread on a raised bank of earth. Uchendu pulled gently at his gray beard and gnashed his teeth. Then he began to speak, quietly and deliberately, picking his words with great care:

'It is Okonkwo that I primarily wish to speak to,' he began. 'But I want all of you to note what I am going to say. I am an old man and you are all children. I know more about the world than any of you. If there is any one among you who thinks he knows more let him speak up.' He paused, but no one spoke.

'Why is Okonkwo with us today? This is not his clan. We are only his mother's kinsmen. He does not belong here. He is an exile, condemned for seven years to live in a strange land. And so he is bowed with grief. But there is just one question I would like to ask him. Can you tell me, Okonkwo, why it is that one of the commonest names we give our children is Nneka, or "Mother is Supreme"? We all know that a man is the head of the family and his wives do his bidding. A child belongs to its father and his family and not to its mother and her family. A man belongs to his fatherland and not to his motherland. And yet we say Nneka—"Mother is Supreme." Why is that?'

There was silence. 'I want Okonkwo to answer me,' said Uchendu.

'I do not know the answer,' Okonkwo replied.

'You do not know the answer? So you see that you are a child. You have many wives and many children—more children that I have. You are a great man in your clan. But you are still a child, *my* child. Listen to me and I shall tell you. But there is one more question I shall ask you. Why is it that when a woman dies she is taken home to be buried with her own kinsmen? She is not buried with her husband's kinsmen. Why is that? Your mother was brought home to me and buried with my people. Why was that?'

Okonkwo shook his head.

'He does not know that either,' said Uchendu, 'and yet he is full of sorrow because he has come to live in his motherland for a few years.' He laughed a mirthless laughter, and turned to his sons and daughters. 'What about you? Can you answer my question?'

They all shook their heads.

'Then listen to me,' he said and cleared his throat. 'It's true that a child belongs to its father. But when a father beats his child, it seeks sympathy in its mother's hut. A man belongs to his fatherland when things are good and life is sweet. But when there is sorrow and bitterness he finds refuge in his motherland. Your mother is there to protect you. She is buried there. And that is why we say that mother is supreme. Is it right that you, Okonkwo, should bring to your mother a heavy face and refuse to be comforted? Be careful or you may displease the dead. Your duty is to comfort your wives and children and take them back to your fatherland after seven years. But if you allow sorrow to weigh you down and kill you, they will all die in exile.' He paused for a long while. 'These are now your kinsmen.' He waved at his sons and daughters. 'You think you are the greatest sufferer in the world? Do you know that men are sometimes banished for life? Do you know that men sometimes lose all their yams and even their children? I had six wives once. I have none now except that young girl who knows not her right from her left. Do you know how many children I have buried—children I begot in my youth and strength? Twenty-two. I did not hang myself, and I am still alive. If you think you are the greatest sufferer in the world ask my daughter, Akueni, how many twins she has borne and thrown away. Have you not heard the song they sing when a woman dies?

'"For whom is it well, for whom is it well?
There is no one for whom it is well."

'I have no more to say to you.'

Daniel Schorr

Call it elitism if you wish, but I find it simply awesome to be admitted into this impressive society of American luminaries. Yet, in candor, I must say that I may be sailing under false colors. Presumably, the

Fellows are chosen to epitomize the professions and disciplines they come from. If I am supposed to represent the world of journalism and communications, this may be a big mistake. Over the years I have developed serious reservations about an industry in which I have worked for the past six decades. I have now come to feel alien to the media that once used to be the Press.

Having experienced journalism in its print, radio, and television incarnations, I have come to mourn the way my beloved profession has become progressively oriented to entertainment, scandal, and profit. I have become aware of increasing public hostility to an institution supposed to monitor the Establishment, but now itself a vast establishment. A public that finds the media insensitive and exploitative is no longer willing to forgive us our press passes.

It is a long way from Hildy Johnson and "Hello, sweetheart, get me rewrite!" to the multimillion-dollar blow-dried television star of today. Sometimes it seems to me that our whole profession is crowded into a small corner of a vast entertainment stage, obliged to borrow the tools and values of entertainment and live by its standards in the grim struggle for ratings that denote profits to the corporate nabobs who now control journalism's destiny.

Daniel Schorr (National Public Radio).

Edward R. Murrow, our idol at CBS, in a famous speech to news directors in 1958, warned that television "insulates us from the realities of the world in which we live." Time has borne him out. From O. J. Simpson to Monica Lewinsky, the media have displayed an inexorable attraction to scandal, along with violence and the hot pursuit of celebrities.

In the rush for ratings, no one is spared. Recently I saw CNN dump out of a live speech by President Bush in order to switch to Los Angeles for the latest word from the sheriff on the investigation of a child kidnapping. I am not aware that the White House even complained about this insult to the presidency.

The Internet has introduced a new dimension of unedited irresponsibility in journalism. Do you remember how the Clinton scandal that led to impeachment first got started? Self-styled gossipmonger Matt Drudge posted on the Web the rumor that *Newsweek* was working on some story about the president and his relationship with an intern. In fact, *Newsweek* was working on a story and holding it for further fact-checking. Drudge didn't see the need for checking. From gossip on the Web, the story quickly escalated to the so-called mainstream media. So a gossipmonger started the ball rolling to impeachment.

Our networks have displayed a willingness to take dictates from the government that once would have been inconceivable. Remember when, in the wake of September 11, National Security Adviser Condoleezza Rice had a conference call with news executives of the five networks and asked them to play down a videotaped statement by Osama bin Laden? They all agreed to do so and were praised by the White House for their patriotism. In the 1930s I heard a lot of Adolf Hitler on the radio. It never occurred to anyone that Americans might be unduly influenced by hearing him.

The definition of "journalist" has changed. A journalist can be a pretty face and pleasant manner of reading from a teleprompter. (A Pew Research Center poll indicated that 77 percent of viewers like news anchors who deliver news in "a friendly

and informal way.") Journalists can be talk-show hosts, skilled at getting guests to yell at each other. A journalist can be a celebrity who came through the revolving door from government. (Of the five Sunday television hosts, two—Bob Schieffer of CBS and Wolf Blitzer of CNN—are career journalists. Three—George Stephanopoulos of ABC, Tim Russert of NBC, and Tony Snow of FOX News—came from government.)

Occasionally, our news media measure up to their responsibility at a time of national tragedy. Television displayed its capacity to bind Americans into a community at moments like the assassinations of John and Robert Kennedy. It reached new heights on September 11, and then on the anniversary of September 11. I was impressed by television's willingness, on those occasions, to cancel millions of dollars' worth of commercials.

But the Ground Zero coverage is the exception. For the rest, I am sad about the state of journalism—a profession I have loved not always wisely, but well. So if you want someone who can speak for the media, you have the wrong fellow.

I hope you don't take my fellowship back. I was just getting to enjoy it.

Edward M. Kennedy

The Academy was founded two centuries ago in the tradition of the highest ideals of our young democracy. John Adams, John Hancock, and others established this distinguished community of ability and ideals—a place where the best minds could convene and recommend measures to improve public policy and benefit the lives of all our citizens. They envisioned an American center for the arts and sciences, and I know that they would be very pleased today with the Academy's achievements.

President Kennedy was proud to be inducted into the Academy in 1955. Years later, at the White House, he hosted a dinner honoring Nobel Prize winners of the Western Hemisphere. In welcoming

Edward M. Kennedy (US Senate).

his guests that evening, he said, "I think this is the most extraordinary collection of talent, of human knowledge, that has ever been gathered together at the White House, with the possible exception of when Thomas Jefferson dined alone." Jack would say the same thing, I'm sure, about the Academy today.

This Academy was founded at a time of great uncertainty and challenge. Important as that challenge was for our country, the founders understood that America could not afford to neglect the arts and humanities in the nation's life. Our literature and poetry, our music and dance, our paintings and sculpture help to define us as a people. They are not an extension of our national life; they are its expression.

As Adams said, "I must study politics and war that my sons may have the liberty to study mathematics and philosophy . . . in order to give their children the right to study painting, poetry and music."

Much has been written of Adams in recent years. Thanks in large part to David McCullough, the nation's second president has earned a prominence and respect that even he could not have imagined. His vision so many years ago is at the very heart of American values today. We study his writings and aspire to his example. As future generations of Americans look back on this time in our history,

we want them to know that we too had the courage and wisdom to meet the challenges of our day—that we defended the principles of democracy and freedom, and preserved our founding ideals and our national sense of purpose.

Today we face a new threat of war, one that will change the way America is viewed by its allies and adversaries. The question of whether our nation should attack Iraq is playing out in the context of a more fundamental debate that is only just beginning—an all-important debate about how, when, and where in the years ahead our country will use its unsurpassed military might.

In September the Bush administration unveiled its new National Security Strategy. This document addresses the new realities of our age, particularly the proliferation of weapons of mass destruction and terrorist networks armed with the agendas of fanatics. The Strategy claims that these new threats are so novel and so dangerous that we should "not hesitate to act alone, if necessary, to exercise our right of self-defense by acting preemptively."

The administration's discussion of self-defense often uses the terms "preemptive" and "preventive" interchangeably. However, in the realm of international relations, these two terms have long had very different meanings.

Traditionally, "preemptive" action refers to times when states react to an imminent threat of attack. For example, when Egyptian and Syrian forces mobilized on Israel's borders in 1967, the threat was obvious and immediate, and Israel felt justified in preemptively attacking those forces. The global community is generally tolerant of such actions, since no nation should have to suffer a certain first strike before it has the legitimacy to respond.

By contrast, "preventive" military action refers to strikes that target a country before it has developed a capability that could someday become threatening. Preventive attacks have generally been condemned. For example, the 1941 sneak attack on Pearl Harbor was regarded as a preventive strike by

Japan, because the Japanese were seeking to block a planned military buildup by the United States in the Pacific. The coldly premeditated nature of preventive attacks and preventive wars makes them anathema to well-established international principles against aggression. Pearl Harbor has been rightfully recorded in history as an act of dishonorable treachery.

Historically, the United States has condemned the idea of preventive war, arguing that it violates basic international rules against aggression. But at times in our history, preventive war has been seriously advocated as a policy option.

In the early days of the cold war, some US military and civilian experts advocated a preventive war against the Soviet Union. They proposed a devastating first strike to prevent the Soviet Union from developing a threatening nuclear capability. At the time, they said the uniquely destructive power of nuclear weapons required us to rethink traditional international rules.

That debate ended in 1950, when President Truman ruled out a preventive strike, arguing that such actions were not consistent with our American tradition. He said, "You don't 'prevent' anything by war . . . except peace." Instead of a surprise first strike, the nation instead dedicated itself to the strategy of deterrence and containment, which successfully kept the peace during the long and frequently difficult years of the cold war.

The argument that the United States should take preventive military action in the absence of an imminent attack resurfaced in 1962, when we learned that the Soviet Union would soon have the ability to launch missiles from Cuba against our country. Many military officers urged President Kennedy to approve a preventive attack to destroy this capability before it became operational. Robert Kennedy, like Harry Truman, felt that this kind of first strike was not consistent with American values. He said that a proposed surprise first strike against Cuba would be a "Pearl Harbor in reverse." "For 175 years," he said, "we have not been that

kind of country." That view prevailed. A middle ground was found, and peace was preserved.

As these two cases show, American strategic thinkers have long debated the relative merits of preventive and preemptive war. Although nobody would deny our right to preemptively block an imminent attack on our territory, there is disagreement about our right to preventively engage in war.

The circumstances of our new world require us to rethink this concept. The world changed on September 11, and all of us have learned that it can be a drastically more dangerous place. The Bush administration's new National Security Strategy asserts that global realities now legitimize preventive war and make it a strategic necessity.

The document openly contemplates preventive attacks against groups or states, even absent the threat of imminent attack. It legitimizes this kind of first-strike option, and it elevates it to the status of a core security doctrine. Disregarding precedents of international law, the Bush strategy asserts that our unique military preeminence exempts us from the rules we expect other nations to obey.

I strongly oppose any such extreme doctrine, and I'm sure that many of you do as well. Earlier generations of Americans rejected preventive war on the grounds of both morality and practicality, and our generation must do so as well. We can deal with Iraq without resorting to this extreme.

It is impossible to justify any such double standard under international law. Might does not make right. America cannot write its own rules for the modern world. To attempt to do so would be unilateralism run amok. It would antagonize our closest allies, whose support we need to fight terrorism, prevent global warming, and deal with many other dangers that affect all nations and require international cooperation. It would deprive America of the moral legitimacy necessary to promote our values abroad. And it would give other nations an excuse to violate important principles of civilized international behavior.

The administration's doctrine is a call for twenty-first-century American imperialism that no other nation can or should accept. It is the antithesis of all that America has worked so hard to achieve in international relations since the end of World War II.

Obviously, the debate is only just beginning on the administration's new strategy for national security. But the debate is solidly grounded in American values and history. I know that all of you in this distinguished Academy will be part of it, and I look forward to your contributions.

It will also be a debate among vast numbers of well-meaning Americans who have honest differences of opinion about the best way to use US military might. The debate will be contentious, but the stakes—in terms of both our national security and our allegiance to our core beliefs—are too high to ignore.

On this and on so many other challenges we will face in the months and years ahead, I know that this Academy will help us all to live up to the ideals established by the founders of our country two centuries ago.
