

Induction Ceremony

Challenges Facing the Intellectual Community

On October 9, 2004, the American Academy of Arts and Sciences welcomed its 224th class of members at an Induction Ceremony in Cambridge, Massachusetts. The ceremony began with a reading by poet Carl Phillips. Astronomer Steven Beckwith, neurobiologist Steven E. Hyman, circuit court judge Diane P. Wood, literary scholar Richard H. Brodhead, and U.S. Senator Paul S. Sarbanes also addressed the audience. Their remarks appear below.



Carl Phillips

To paraphrase Samuel Johnson, the business of the poet is not so much to tell us how or what to think but rather to enlarge our sensibility. The poems I admire the most, from which I have learned the most, are those that without actually asking us to do so direct us toward an interior interrogation of ourselves as human beings. In the course of that interrogation, we give thought to nothing less than what it means to be alive, human, flawed, to have a body and to trust it, even as we acknowledge its instinctive nature and the ways in which that nature collides routinely with that strange and uniquely human creation – moral conduct, whatever that is. Sex and prayer, devotion, and the meaningful tension between the desire to risk abandon – without which devotion is nothing at all – and to resist it.

If the body is a ship, who is the harbormaster? That's but one of the questions hovering over this first poem by Frank O'Hara. It's called "To the Harbormaster."

"To the Harbormaster"

I wanted to be sure to reach you ;
though my ship was on the way it got
caught
in some moorings. I am always tying up
and then deciding to depart. In storms and
at sunset, with the metallic coils of the tide
around my fathomless arms, I am unable
to understand the forms of my vanity
or I am hard alee with my Polish rudder
in my hand and the sun sinking. To
you I offer my hull and the tattered cordage
of my will. The terrible channels where
the wind drives me against the brown lips
of the reeds are not all behind me. Yet
I trust the sanity of my vessel ; and
if it sinks, it may well be in answer
to the reasoning of the eternal voices,
the waves which have kept me from
reaching you.

The next poem is my own. It's called
"Crew" – as in the sculling crews on the
Charles River.

"Crew"

(St. John's)

Most wore shirts – oversized,
shabby-aquarium-green
singlets that the light
off the water at once
filled, making
the bodies inside
visible : their lack
of fullness, what
eventually they would come
into, briefly
the body seemed what it
never is

– ignorable,
a small concern.

But the boy at the bow was shirtless :
how bells at evensong,
though this was morning, leave
changed the air –

Facing the others, he watched them
pull in unison their
course across and

over again the water,
as if to the rowing there were now
no struggling,

or it was as if – about struggling –
the only difficult part left
lay in settling

finally on a pattern for it.
Three strokes ; four –

And the boy at the bow sang out to them :

*What is dread
but that from which the soul
will be delivered?*

To which *O what
is the soul?* the rest of the boys
sang back.



Steven Beckwith

A few years ago, my wife and I were on vacation with friends from New York at their beach home on Long Island. We were sitting on the deck of their house admiring the moonrise over the ocean with the tide just starting to change, and – trying vainly to be erudite – I remarked on the lag between the time of the tides and the position of the Moon as it went around the Earth. The husband of the other couple looked at me and said in complete candor, “So the Moon goes around the Earth?” I was a bit startled, but I drew upon years of experience dealing with fellow academics and said, calmly, “Yes, the Moon orbits the Earth once a month. That’s why it has different phases.”

“I never knew that,” he said.

I was not immediately sure if he was serious, but he looked genuinely pleased to learn something new, so I segued quickly to another subject before succumbing to the urge to deliver a lecture on basic astronomy while we were sitting on his deck overlooking his beach.

His failure to register the most basic knowledge about our nearest neighbor surprised me at the time, and this true story will be the basis for my future challenge. For we are in a truly remarkable time in human history, when our knowledge about the universe has already gone far beyond what most professional scientists would have imagined as recently as twenty years ago. Just picking a few examples from my own field of astronomy, the last ten years have seen the measurement of the age of the universe to a precision of better than 5 percent, measurement not only of its rate of expansion, the so-called Hubble

constant, but the rate of change of the expansion over cosmic time, leading to the discovery that the universe is actually accelerating as it grows. This is one of the most important discoveries in the last hundred years.

We now have proof beyond any reasonable doubt not only for the existence of black holes but the presence of one in the center of our own galaxy, a discovery credited in part to one of our Class I inductees, Andrea Ghez. We have been able to see back to the time when the first stars and galaxies emerged from the soup after the Big Bang, a time we call cosmic dawn. We can now produce pictures of the young galaxies, demonstrating unequivocally that the universe really looked different thirteen billion years ago, a palpable verification that the universe has evolved and the Big Bang theory is better than the alternatives.

And we have not only discovered more than a hundred planets orbiting stars other than the Sun, in itself an almost unbelievable accomplishment, but we have also made the first measurements of elements in the *atmosphere* of one of them. Ten years ago, very few people thought we would discover any extrasolar planets in our lifetimes, let alone study their atmospheres.

We are the first generation since the rise of the human species to develop the means to answer some of the deepest questions of philosophy about our origins and place in the cosmos: where did we come from, what is the destiny of the universe, are we alone? Most people don’t realize the enormous progress made by basic research into these questions. Many of us take for granted the technological innovations that improve and lengthen our lives, innovations won by remarkable perseverance and creativity applying one of the most powerful developments of human thought, the scientific method.

The intellectual achievements I cited here come from my own field of astronomy, yet they rely completely on developments in many other fields of science and technology and thus demonstrate the true renaissance of our current era. Here are just a few examples:

- The detectors needed to sense the faint light from distant galaxies, stars, and black holes were first developed for military reconnaissance by materials science, made affordable by their incorporation in hand-held video cameras, and refined for astronomy only after several billion dollars of military and commercial engineering investment. With

We need a more scientifically literate electorate if we are to make the right choices for the future of our society.

our latest detectors on the Hubble Space Telescope, we have improved the sensitivity over the human eye by thirty billion times, enough to easily detect the light from a firefly at the distance of the Moon. Engineering drives science.

- Techniques from applied mathematics are used to process the data we collect, removing unwanted interference from the instruments and the Earth’s atmosphere. Basic research in mathematics provides the underpinnings for all theories in cosmology, gravitational research, and elementary particle physics needed to understand the early universe.

- The development of chemical rockets made it possible to place our telescopes above the Earth’s atmosphere, allowing us to approach the quantum limits of observation with our most advanced instruments.

- Advances in computer technology let us record, process, and analyze data from our experiments at a rate not dreamed of a couple of decades ago. The entire processed image of the Hubble Ultra Deep Field, our deepest image of the universe contained in a few hundred megabytes, fits easily on a data stick that I can carry in my pocket and is accessible for viewing by anyone in the world with a link to our website. Gutenberg could never have imagined the access to information we have today.

Just as our basic sciences depend so heavily on developments in technology, so basic research gives back to technology in turn: the transistor, the laser, and the World Wide Web all emerged from advances or inventions in basic research, in addition to the intellectual advances made possible by a deep understanding of space and physical theory.

Despite this overwhelming intellectual bounty, there is a large and perhaps even growing gap between those of us at the cutting edge and people in society who ultimately make these discoveries possible. My conversation at the beach house is a poignant example of this gap. Although a deep understanding of the universe or the Moon would probably

make little difference in the life of my friend, his worrisome lack of knowledge reminds us of how easily people can substitute superstition for understanding when looking at the world.

It is this tendency that is our most immediate societal challenge. It is troubling to see broad societal policies put in place by people with little understanding of and in some cases outright disdain for the scientific progress that has made our advance as a civilization possible. A surprisingly large number of our citizens consult horoscopes to help them make decisions. Stem cell research, genetic engineering, nuclear energy generation, and an understanding of global climate change, while not immune from uncertainties and ethical considerations, nevertheless hold a promise for our future as a species that we should not turn away from just because they conflict with age-old beliefs and, yes, superstitions that we must overcome to survive and prosper as a civilization. My challenge to the Academy is to find ways to counter the anti-intellectual trends that undermine the greatest accomplishments of science for society and in the worst case could allow a return to the dark ages after a period of enlightenment.

In last winter's *Bulletin of the Academy*, Robert Rubin wrote, "Our country would benefit enormously from a more economically literate electorate." I believe the same statement applies to scientific literacy in America: we need a more scientifically literate electorate if we are to make the right choices for the future of our society.

The opportunities are abundant. Many people are fascinated by even the most esoteric ideas. Stories about scientific discoveries regularly grace the front pages of the major newspapers in the world. The Air and Space Museum in Washington is the most visited museum in the world. Our website providing access to pictures from the Hubble Space Telescope has a million visitors per month, rivaling CNN's website for popularity. People can be interested in the intellectual progress of science and technology if we make it accessible to them.

We must seize these opportunities to infect our fellow citizens with the love of intellectual achievement that drew us to the calling in the first place. If we can do that, our impact on society will reach far beyond what we do as individual scholars and pave the way for a rich future of intelligent choices.



Steven E. Hyman

Brain science is a young field. The first department of neuroscience was founded in 1966 in recognition of the idea that only a sustained interdisciplinary effort would permit significant headway in addressing the complexity of the brain. And, of course, the brain is complex, as it would have to be in order to underlie all thought, emotion, and behavior. Driven by the human desire for self-understanding as well as for progress against dread diseases such as schizophrenia, autism, and Alzheimer's disease, and despite its youth and its difficult subject matter, neuroscience has advanced. All scientific advances bring with them ethical, social, and policy dilemmas – but progress in brain science brings special concerns.

Brain Privacy

One's mind would appear to be the last bastion of privacy. Within one's mind it is possible to safely harbor fear, hatred, prejudice, embarrassment, lust, or any train of thought, and no one else can be the wiser. And it would seem almost certain that no one could know more about what is going on within our heads than we do. These certainties are now being eroded. To be sure, neuroscience is not on the verge of creating mind-reading technology. But it is, however, now possible to peer into the human brain and to observe surrogates of thoughts and emotions with the aid of new imaging technologies.

The application of imaging technologies outside the laboratory has clear benefits when used to diagnose illness or observe the progress of treatment, but other potential uses

raise many questions. For example, when white subjects are shown pictures of unfamiliar black faces they activate their amygdalae; this is a brain structure involved in processing emotions such as fear and anger, in a way that correlates with measures of implicit racial bias.¹ Amygdala activation in this circumstance does not signify that a person is bigoted; indeed, most of the subjects would sincerely deny any awareness of bias, let alone bigotry, thanks to the cognitive control exerted by their prefrontal cortices.² The potential deployment of imaging technology outside the laboratory to detect unconscious bias or other unconscious phenomena has many possible ramifications; here I want to highlight the issue of brain privacy. If the inferences of the authors of these papers are correct, they are seeing evidence (amygdala activation) for reactions to unfamiliar black faces that the subject might not be aware of, indeed might be distressed by. One can readily imagine poor uses of such technologies that could be quite harmful to individuals or groups. Moreover, in a world so dominated by security concerns, attempts to harness cognitive science and brain imaging to sift truthful answers from deception might prove irresistible in many societies, including our own, even if the technology turns out to be far from perfect.

Prediction

Families and societies might reasonably want information about the temperaments, talents, and vulnerabilities of their children. Early interventions to prevent depression or antisocial behavior or enrichments to enhance education are all potentially worthy goals. At the same time, predictions can be misused; even well-meant interventions can prove stigmatizing or limiting of educational opportunities, and later of work opportunities or even health insurance. There has long been concern about inappropriate use of genetic information to stigmatize individuals or groups. However, most behavioral phenotypes that we might care about result from complex

1 E. A. Phelps et al., "Performance on Indirect Measures of Race Evaluation Predicts Amygdala Activation," *Journal of Cognitive Neuroscience* 12 (5) (September 2000): 729 – 738.

2 J. A. Richeson et al., "An fMRI Investigation of the Impact of Interracial Contact on Executive Function," *Nature Neuroscience* 6 (12) (December 2003): 1323 – 1328.

interactions of many genetic and nongenetic factors, not simple determinative factors. In fact, it is our brains, not our genes, that have most to do with intelligence, talent, emotional style, and a diversity of behavioral outcomes. Potentially predictive brain-based studies are in early stages. Yet several investigations have found correlations between fluid intelligence and frontal lobe structure or function. Other investigators have made premature claims about identifying features of the brains of antisocial individuals.³ Even with mature technologies brain-based predictions will likely remain probabilistic rather than certain, but we as a society should be prepared to manage the outcomes.

Enhancement of Normal Functioning

Several drugs, such as methylphenidate (Ritalin), selective serotonin reuptake inhibitors (SSRIs), and others, developed to treat mental disorders, and modafinil, developed to treat narcolepsy, exhibit beneficial effects on cognitive performance, alertness, and negative emotions⁴ in people with milder symptoms who would not ordinarily be accounted ill; indeed they exhibit similar effects in healthy people. Some of these drugs are already in wide use among individuals without a diagnosable illness.⁵ As more effective drugs are developed for existing indications as well as for new ones such as memory enhancement, and as their use spreads, as it will in a free society, ethical, social, and policy concerns will grow yet more pressing.

3 A. Raine et al., "Reduced Prefrontal Gray Matter Volume and Reduced Autonomic Activity in Antisocial Personality Disorder," *Archives of General Psychiatry* 57 (2) (February 2000): 119–127.

4 J. L. Rapoport and G. Inoff-Germain, "Responses to Methylphenidate in Attention-Deficit/Hyperactivity Disorder and Normal Children: Update 2002," *Journal of Attention Disorders* 6 (Suppl. 1) (2002): S57–6; D. C. Turner et al., "Cognitive Enhancing Effects of Modafinil in Healthy Volunteers," *Psychopharmacology (Berl)* 165 (3) (January 2003): 260–269; B. Knutson et al., "Selective Alteration of Personality and Social Behavior by Serotonergic Intervention," *American Journal of Psychiatry* 155 (3) (1998): 373–379.

5 A. Angold et al., "Stimulant Treatment for Children: A Community Perspective," *Journal of the American Academy of Child and Adolescent Psychiatry* 39 (2000): 975–984, 1004–1007.

There is, of course, the important issue of safety since no drug can be absolutely free of side effects and the risk-benefit calculus changes when the user is not ill to begin with. This issue is best managed, at least in theory, by scientific advance, thorough testing in appropriate populations, regulation of advertising, and education of physicians and the public. Other social issues, fairness and coercion, have less obvious paths to a solution.

As we develop more complete and compelling understandings of the biology of thought, emotion, and behavior, there may follow a persistent erosion of the sense of personal responsibility in a variety of communities.

While fear has long been expressed that psychotropic drugs might be used to pacify a restive underclass, the data suggest that stimulant drugs and SSRIs are more widely accepted and used among educated and advantaged families.⁶ Based on some individuals' financial means, access to information and prescribers, and a culture that creates incentives for a competitive advantage, there is a risk of widening the gulf between the most and least advantaged in Western societies by the existence of chemical "haves" and "have-nots." In short, the already advantaged may gain even greater competitive advantages at school and at work by being able to stay awake longer, attend better, and remember more. The pattern of stimulant use even to treat attention deficit hyperactivity disorder in the United States (greater among the affluent and educated, less among minorities) suggests that this is not an idle concern.

An allied issue is coercion. The explicitly required use of psychotropic drugs, as occa-

6 *Health: A Report of the Surgeon General*, U.S. Department of Health and Human Services, 1999.

sionally occurs in schools and more often in the criminal justice system, is a complex matter for law and regulation. The issue of implicit coercion has no such obvious forum for discussion. Competitive pressures have turned aspects of child rearing in some communities into something of an arms race. Many young people now approach SAT coaching as necessary, if only to ensure that they are not the only person in their cohort lacking prior exposure to the test and awareness of successful test-taking strategies. Similar logic could easily operate within certain school communities in which there is widespread use of stimulant drugs. Parents might feel that they put their child at a disadvantage in terms of behavioral control and ability to study if a large number of other children are receiving stimulants. In a competitive workplace, one can easily imagine scenarios in which caffeine, stimulants, and newer drugs become *de rigueur* to keep workers alert, energetic, and attentive for longer hours; or cases when SSRIs are informally suggested to banish irritability. Even the motives behind implicit coercion raise important ethical issues, for example, the point at which love and hope shades into the instrumentalization of children by narcissistic parents.⁷

Finally the use of psychotropic drugs for extended periods of time touches on the question of a person's identity. The human brain is highly malleable or, to use the technical term, "plastic." Insofar as any life experience leaves an impression on us, a memory, or a new set of reactions, it is because our brains are changed by the remodeling of synapses (the structures across which nerve cells communicate) and the resulting alteration in brain circuitry. The use of drugs changes the brain by two broad classes of effects. The first is indirect and is mediated by a person's experience of him- or herself. For a person who is suffering terribly, drugs may mean that life is not hopeless and that a future can be planned for. For a child who did not feel symptomatic and who receives drugs to control behavioral outbursts, the result might be a diminished sense of personal responsibility and self-efficacy. Of course, the reality is almost always far more complex and nu-

7 M. J. Sandel, "The Case Against Perfection," *Atlantic Monthly*, April 2004.

anced. The second class of effects comes from the direct actions of the drug on the brain to produce altered brain wiring. We certainly do not know that such changes would be harmful for existing drugs; indeed for those suffering a mental illness the goal of both drug treatment and psychotherapy is a beneficial long-term change in brain function. Nonetheless, it is an issue worthy of discussion; the brain of a person who has been treated with psychotropic drugs emerges as a slightly different brain than it was before.

Personal Responsibility

There is a large and growing literature on law, neuroscience, and psychology,⁸ but even outside the courtroom there are important issues raised by advances in neuroscience. As we develop more complete and compelling understandings of the biology of thought, emotion, and behavior, there may follow a persistent erosion of the sense of personal responsibility in a variety of communities. Already more behavioral conditions ranging from learning styles to temperaments such as shyness or moodiness are coming under medical rubrics. This movement is welcomed by some and decried by others, but nonetheless will require thoughtful engagement.

In this short talk I've only been able to touch on a minority of the issues raised by the brain sciences, and in each case only to highlight areas deserving of substantial investigation and discussion. It is thus quite welcome to see a growing interest in the ethical, social, and policy issues raised by neuroscience.⁹



Diane P. Wood

In the brief time I have, I would like to reflect on one of the oldest, yet still a new problem for the legal system: namely, is there anything worthy of being called “law” at the international level? If so, what is it, and where can we find it? If not, is this a problem and (if it is) how might one remedy it? Most other countries in my experience do not share the ambivalence about international law that we find at home. The Constitution of the Federal Republic of Germany, for example, squarely states that: “The general rules of public international law constitute an integral part of federal law. They take precedence over statutes and directly create rights and duties for the inhabitants of the federal territory.”¹

To similar effect, the Constitution of Japan includes “the law of nations” in its supremacy clause, which reads as follows: “. . . This Constitution shall be the supreme law of the nation . . . [and] [t]he treaties concluded by Japan and established law of nations shall be faithfully observed.”²

The 1996 Constitution of the Republic of South Africa draws an interesting distinction between international law and foreign

law when individual rights are concerned: “When interpreting the Bill of Rights, a court, tribunal or forum . . . *must* consider international law, and *may* consider foreign law.”³ Many other countries similarly reflect respect for international law in their legal systems, whether or not they have singled it out for special attention in their constitutions.

Why are things so different here? The explanation certainly is not that Americans are skeptical about law in general. *Au contraire*. Americans believe deeply in written laws and in the court system at the domestic level. We can hardly keep up with the flood of legislation that comes forth from Congress and the state legislatures every year, and people are just as happy today to take their problems (legal or otherwise) to the courts as they were when Alexis de Tocqueville wrote *Democracy in America*. Indeed, they seem to like this solution more and more every year, somewhat to the dismay of hard-working judges. The National Center for State Courts reports that combined civil, criminal, domestic relations, and juvenile filings, which were a whopping 38.5 million in 2002, have grown 15 percent in the ten years since 1993; when you add traffic-related cases to the mix, the total filings in 2002 amounted to 96.2 million cases.⁴ Next to this, the workload of the federal courts sounds like a drop in the bucket, but federal judges too are experiencing unprecedented demand for their services. In 2003, the Administrative Office of the U.S. Courts reported that criminal cases representing more than 92,300 defendants were filed in the district courts, and more than 250,000 civil cases were filed.⁵ This represented on the criminal side a 44 percent increase over the 1994 case levels; on the civil side it was a 10.2 percent increase.⁶ At the court of appeals level, some 60,600 cases were filed

3 Constitution of South Africa, Article 39(1)(b), found at <http://www.info.gov.za/constitution/1996/96cons2.htm#7>.

4 National Center for State Courts, Court Statistics Project, Overview, available at http://www.ncsconline.org/D_Research/csp/2003_Files/2003_Overview.pdf.

5 Administrative Office of the U.S. Courts, Federal Judicial Caseload Statistic, March 31, 2004, available at <http://www.uscourts.gov/caseload2003/front/Mar03Txt.pdf>.

6 Ibid.

8 G. Garland, ed., *Neuroscience and the Law* (New York: Dana Press, 2004).

9 S. Marcus, ed., *Neuroethics: Mapping the Field* (New York: Dana Press, 2002); M. J. Farah, “Emerging Ethical Issues in Neuroscience,” *Nature Neuroscience* 5 (11) (2002): 1123–1129; M. J. Farah et al., “Neurocognitive Enhancement: What Can We Do and What Should We Do?” *Nature Reviews Neuroscience* 5 (5) (2004): 421–425.

1 Constitution of the Federal Republic of Germany, Chapter II, Article 25 (Public International Law), found at <http://www.jurisprudencia.de/jurisprudencia.html>.

2 Constitution of Japan, Chapter X, Article 98, found at <http://www2.gol.com/users/michaelo/Jcon.ChX.html>.

in 2003, which was a 21.8 percent increase since 1994.⁷

So the problem is definitely not that we are congenitally allergic to law. But, you might say, domestic law is somehow more reliable than whatever international law might be. It is made by people we elected; it is enforced by other people we elected or their appointees; and the courts (I hope) are sufficiently respected that their judgments are carried out. True, true, true, and, I would argue, irrelevant. Those same people whom we elect and to whom we delegate the responsibility to govern are the ones who are deciding, case by case and field by field, where rules of international scope exist and how we should respond to them. International conventions, in the sense of usages or customs rather than formal agreements, dictate an astonishing amount of actual behavior of nation-states. Let me offer a few examples from my own experience, which is largely in the area of international economic relations. After that, I'll turn to current events, which make the point just as well.

One of the more elaborate efforts at international rule-making in the last sixty years can be found in the network of agreements now enforced by the World Trade Organization. While at one time its predecessor, the somewhat clumsy General Agreement on Tariffs and Trade, confined itself to successive rounds of tariff reduction, prohibitions against obvious quantitative restrictions, and a consensus-based form of dispute resolution, over the years the organization became far more ambitious. Attention shifted to so-called non-tariff barriers to trade, and it quickly became apparent that practically any national policy (or lack of a policy) could affect international trade flows: subsidies for education; research and development support; government purchasing programs; the enforcement of environmental laws; child labor rules; norms against discrimination on the basis of sex, or religion, or race, or ethnicity; or the antitrust laws. Indeed, these developments were so notable that the American Society of International Law was prompted in the spring of 1993 to devote a substantial portion of its annual meeting to the topic "The Internationalization of Domes-

tic Law: The Shrinking *Domaine Réservé*."⁸ At a concluding panel, which I moderated, we discussed the ways in which international norms have *had* to be incorporated in domestic law in areas as diverse as economic issues, national security laws, land-use and environmental rules, and global regulations that affect disease prevention and control (especially HIV/AIDS). At the risk of oversimplifying, in the end the panel concluded that the *domaine réservé* has indeed shrunk, though not perhaps to as great a degree or at as great a pace as some might have thought. That still seems correct to me. Moreover, many groups around the world have also seen this, and some – the protesters in Seattle five years ago, for example – have not liked what

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they have observed. Thus, at the moment we appear to be in a period of retrenchment for the WTO: the procedures and rules adopted at the end of the Uruguay Round are quietly being put into place; the dispute resolution bodies are open for business and are slowly building credibility; yet the more ambitious initiatives for more international rules have been beaten back.

Other areas where international norms operate more strongly than is commonly supposed also exist. Take international criminal law enforcement cooperation. The U.S. authorities cooperate every day with their foreign counterparts in a huge network of other countries, investigating drug crimes, money laundering, terrorist acts, consumer fraud schemes, child pornography, and endless other topics. Most extraditions are not front-page news, precisely because they are success stories. One notable time that the United

States was caught overstepping boundaries was described in the first round of the *Alvarez-Machain* litigation, when agents of the federal Drug Enforcement Agency slipped across the Mexican border and kidnapped a doctor who allegedly was assisting the drug lords in the ultimately fatal torture and interrogation of a DEA agent.⁹ The U.S. agents spirited Dr. Alvarez-Machain back to the United States for trial. Mexico objected strongly to this violation of its territorial integrity. The U.S. Supreme Court held that nothing had happened that should prevent the doctor's criminal trial from going forward. In so doing, it read the extradition treaty between the United States and Mexico very narrowly, as something that provided a mechanism for extradition but that did not expressly forbid kidnapping. The decision received widespread criticism, because international law does not permit countries freely to exercise police powers outside their own borders. In fact, since then, and despite all the pressures of the war on terrorism, kidnapping is not a strategy that any country, including the United States, has employed publicly. It appears therefore that the international rule remains intact, even after an apparent setback.

What is happening today? Did international law get tossed into the wastebasket in the wake of the September 11 horrors? Has it become a luxury that we cannot afford (along with the Fourth Amendment and other quaint rules in the Bill of Rights)? I think not. One cannot answer these questions by looking at a few snapshots of current events: glimpses for instance of the U.S. decision to commence a war in Iraq without express authorization from the U.N. Security Council, or glimpses of the disregard of the Geneva Conventions at Abu Ghraib or at Guantanamo, or glimpses of inaction in the face of the growing genocide in Darfur. Instead, the system needs time to work. Although it seemed to many that the United States was disregarding the United Nations at the beginning of the Iraq war, and that remarks were being lobbed about to the effect that the institution had

7 Ibid.

8 ASIL *Proceedings* 553 (87) (1993).

9 *United States v. Alvarez-Machain*, 504 U.S. 655 (1992). A later phase of this case reached the Supreme Court in 2004, when it rendered a decision dealing with follow-on litigation brought by Dr. Alvarez-Machain against the kidnapers. See *Sosa v. Alvarez-Machain*, 124 S. Ct. 2739 (2004).

lost any possible effectiveness or utility, the picture is starting to look quite different. The reports of the U.N.'s death were, like those of Mark Twain's, greatly exaggerated.¹⁰ Not only for the ongoing conflict in Iraq, but also in many other troubled areas of the world, the U.N. has proven once again that it is far better than the alternative. We are watching a similar drama unfold with respect to the applicability of the Geneva Conventions to the detainees at Guantanamo Bay: initial denials, followed by statements backing off from those denials, followed ultimately by a recognition that the substance of the Conventions had to be respected. These developments occurred against the backdrop of widespread criticism around the world of the position the United States had taken – that is to say, there was pressure on this country to adhere to these international rules, and the pressure has had an impact.

There is, then, something worthy of being called international law, or rules that operate reasonably effectively to restrain nation-states. Such rules are becoming more, rather than less, important, as we witness the development of the Internet as a mechanism of global communication and commerce, but also of global crime; as more and more businesses operate worldwide; and as threats to security become less and less tied to any particular piece of geography. If those rules are to work, they must bind everyone: the strong as well as the weak, the rich as well as the poor. Domestically, we have understood this since the beginning: even presidents and the rich and famous must obey the law, as we saw in the Nixon case, the Clinton case, and the Martha Stewart and Andrew Fastow cases. I am reminded of Voltaire's famous statement about God: "If God did not exist, it would be necessary to invent him."¹¹ So too with international law: if it has not existed up until now, it will be necessary to invent it. More than that, it will be up to those of us here to adapt and improve it to the formidable challenges that face us. I am confident that we will do so.

10 Mark Twain (aka Samuel Clemens), Cable from London to the Associated Press (1897).

11 *Épître à l'Auteur du Livre des Trois Imposteurs*, November 10, 1770.



Richard H. Brodhead

It is an honor to speak as the representative of Class IV of new members of the Academy. As students of rapids know, Class IV events are massively energetic and thrilling but typically not life-endangering. That fits the humanities and the arts, and no doubt explains why we were assigned this number. I won't speak here as a professional humanist, still less as an administrator of the modern home of the humanities, the university. Instead I'll say a word about the founding need for this form of human practice, and with your permission I'll make it personal.

I knew poetry from the days of nursery rhymes, but the first time I "got" it was in my fourteenth year. I remember the moment fairly vividly. I was in high school not thirty miles from here and at the low watermark of self-esteem. Each day, changing classes, my fellows would parade past, every one of them an image of some adequacy I lacked: this one cooler, that one more handsome, this one more popular, that one more athletic. Doing my homework one day, I started into a Shakespeare sonnet where I was met by these lines:

When in disgrace with Fortune and men's eyes,
I all alone beweep my outcast state,
And trouble deaf heaven with my bootless cries,
And look upon myself and curse my fate,
Wishing me like to one more rich in hope,
Featured like him, like him with friends possessed,
Desiring this man's art, and that man's scope,
With what I most enjoy contented least . . .
(Shakespeare, Sonnet 29)

That's me! I could have cried. How did he guess?

This was my first recognition of the power of someone else's creation to give voice to my experience, an experience self-imprisoned and un-self-knowing until a stranger's words brought it to expression. But soon thereafter, I learned another primitive power of art. That same spring I read the first poem I ever really loved (I must have been going through a sort of literary puberty): Wordsworth's "Tintern Abbey," which flooded me with nostalgia for the more intense experience lost with my youth. It was some years before I realized that

*Strange beasts, we humans,
who need not just to live
but also to understand
our lives; stranger yet that
we should know ourselves
not directly but through
borrowed understandings,
through images composed
by others' hands.*

I had not in fact lost my youth at the time when its demise seemed so drenched in pathos. When I recognized this fact, I learned that this poem had not so much voiced my experience as induced a new experience, giving me access to a state of feeling that I knew through the poem that I did not yet know from life.

Sometime later I learned a further variant in which, art having given me a foretaste of certain forms of experience – let's call them virtual experiences, experiences imaginatively induced and entertained – I came to know them in reality. My sense was never of the gap between life and art. Rather, I had the sense of learning at last what art's images had been referring to, with art still providing words for what I now came to know. I knew King Lear's famous line over the dead Cordelia many years before I ever stood over the body of a loved one of my own. When I did, I felt I grasped at last what Lear (or Shakespeare) meant, but Lear's line gave me a way

to name the tormenting, gratuitous, inexplicable proximity of some things (for no good reason) living to others (for no good reason) dead: “Why should a dog, a horse, a rat have life/And thou no life at all?” I had long been struck by Whitman’s empathic identifications with the sufferings of common men in *Leaves of Grass* – not just the runaway slave, but, less predictably, a fireman pinned in the rubble of a collapsed building:

I am the mashed fireman with breastbone
broken . . . tumbling walls buried me in
their debris,
Heat and smoke I inspired . . . I heard the
yelling shouts of my comrades,
I heard the distant click of their picks and
shovels . . .

September 11 supplied a real referent for what had heretofore been an imaginary experience. But in the wake of 9/11, while the rubble was still being sifted and the eventual toll of life not yet known, I felt I could enter into a plight made real by history through the medium of these 150-year-old words.

Strange beasts, we humans, who need not just to live but also to understand our lives; stranger yet that we should know ourselves not directly but through borrowed understandings, through images composed by others’ hands. The officially designated divisions of the humanities will have their ups and downs, but as long as these needs stay in play, the core activity of the humanities will not go away. As Academy member Henry James once wrote: “Till the world is an unpeopled void there will be an image in the mirror.”



Paul S. Sarbanes

It might be said that there was an American Academy of Arts and Sciences before there was an America. The American Academy received its charter from the Massachusetts legislature nearly 225 years ago, at a time when Massachusetts was a state – no longer a colony, but not yet part of the sovereign nation that would be established within the decade.

The “end and design” of the Academy, as the Act of Incorporation put it, was to “promote and encourage” knowledge and discovery, in order to “cultivate every art and science which may tend to advance the interest, honor, dignity, and happiness of a free, independent and virtuous people.”

In that extraordinary period, the Academy was founded in the conviction that where there is education, knowledge, and open inquiry and debate, there will be freedom and prosperity. It has been borne out in the experience of this nation.

Full and timely access to information, free inquiry and debate, and reasoned discourse are indispensable to informed and responsible decision-making – in our personal lives, in our politics, in our economic and financial affairs.

In our capital markets in recent years, however, we have had to confront the disastrous consequences of departing from that principle. In October 2001, Enron was the nation’s seventh-largest corporation. By the end of that year it was bankrupt. Enron was the canary in the mineshaft.

A number of major public companies, with the complicity of their auditors, were relying

on convoluted and often fraudulent accounting devices to inflate earnings, hide losses and drive up stock prices. Facts were distorted and withheld. The result was a crisis in investor confidence. Over a period of months, market values of public companies fell by some trillions of dollars. Thousands of jobs were lost. Retirement savings dried up.

In the judgment of the *Wall Street Journal*, “The scope and scale of the corporate transgressions of the late 1990s . . . exceed anything the U.S. has witnessed since the years preceding the Great Depression.”

That the crisis was not worse was due in large part to the statutory infrastructure established by the 1933 and 1934 Securities Acts. Together these Acts changed assumptions with respect to our capital markets. As President Roosevelt said of the 1933 Act, which was also known as Truth in Securities, “[it] adds to the ancient rule of caveat emptor, the further doctrine ‘let the seller also beware.’ It puts the burden of telling the whole truth on the seller.”

The new laws, as Arthur Schlesinger, Jr. has explained them, “gave disillusioned investors new reasons for confidence. Even more, [they] removed the whole process of capital investment from the realm of guess and gamble and rested it – through the detailed and continuous disclosure required by the SEC – on the basis of reliable fact.”

For the past seventy years our regulatory infrastructure has worked remarkably well, making the U.S. capital markets the most transparent and efficient in the world. But in recent years the markets have undergone rapid and fundamental changes, often beyond the reach of the existing infrastructure, and the commitment to serving the interests of the investing public gave way too often to short-term personal gain.

Upon analysis there was surprisingly little controversy about the nature of the problems:

- Inadequate oversight of accountants;
- Lack of auditor independence;
- Weak corporate governance procedures;
- Stock analysts’ conflicts of interest;
- Inadequate disclosure provisions;
- Grossly inadequate funding of the Securities and Exchange Commission.

The Senate Banking Committee concluded that the systemic nature of the problems required a statutory remedy. As *Fortune* magazine put it, “This isn’t just a few bad apples we’re talking about. This, my friends, is a systemic breakdown.” That statutory framework is carefully built upon, and reinforces, the framework established by the 1933 and 1934 Securities Acts.

Let me briefly outline the principal provisions of the new law.

- It establishes the Public Company Accounting Oversight Board (PCAOB), under the SEC, to assure effective accounting oversight. All accounting firms that audit public companies must register with the Board, which has broad discretion to establish standards, investigate conduct, and, when necessary, impose penalties.
- It establishes auditor independence by prohibiting accounting firms from offering a broad range of consulting services to the companies they audit.
- It sets standards for corporate governance. Public companies must have audit committees that are independent of management. Auditors now work for the audit committee. CEOs and CFOs are required to vouch directly for the accuracy of their companies’ financial statements. Corporations are prohibited from making personal loans to their executives.
- It requires numerous disclosures, including prompt disclosure of trades in company stock by management and 10 percent share-

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holders, and disclosure of material off-balance-sheet transactions.

- It addresses analysts’ conflicts of interest by requiring the SEC and the exchanges to adopt rules prohibiting conflicts of interest that undermine analysts’ independence, and establishes safeguards to protect analysts against retaliation.
- It funds the SEC at a level that enables the Commission to hire additional accountants and attorneys and improve its technology infrastructure. These resources were urgently needed, and long overdue. In a four-year period we have succeeded in virtually doubling the SEC budget.

Changes in the law have had the salutary effect of prompting sober reassessment in boardrooms and classrooms across the country. This Academy undertook a project on “Corporate Responsibility: Beyond Regulation” that will shortly issue a report, includ-

ing recommendations for rebuilding the trust that is the linchpin of our market system. I was privileged to participate in one of the project’s sessions.

The issues are exceedingly complex, but the underlying principles are not. If our capital markets are to work efficiently, they cannot tolerate conflicts of interest. They must have effective checks and balances, and gatekeepers who faithfully carry out their responsibilities. They must ensure that investors have access to full, accurate, and timely information.

Bill Donaldson, the chairman of the Securities and Exchange Commission, emphasizes that compliance with the rules is not enough. “Successful corporate leaders must strive to do the right thing . . . and they must instill in their corporation this attitude of doing the right thing . . . They should make this approach . . . part of their companies’ DNA.”

The principle that Donaldson enunciated for our public companies extends far beyond the boardroom and the executive suite to every aspect of our personal and national life. It is a cardinal principle on which this Academy was founded more than two centuries ago. ■

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