

GLOBAL LEADERSHIP VISIONS

OP-ED essays
McDonnell Academy Scholars
2007 – 2008



A COLLECTION OF OP-ED ESSAYS FROM McDONNELL ACADEMY SCHOLARS

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SCIENCE & TECHNOLOGY

1.1	Basic Research: To Fund or Not to Fund	An-Chun Chien	08
1.2	Stem Cell Research: Where does it Stand?	Hyun Cheol Roh	10
1.3	Energy Poverty in Rural India: Is Modern Technology a Remedy?	Manoranjan Sahu	12
1.4	The Brain: Our Next Generation Support Device	Woosung Kim	14

CULTURE & SOCIETY

2.1	Depression: Not just in Someone's Head	Wei-Jen Chua	18
2.2	How Long can China's One Child Policy go on?	Juanyi Yu	20
2.3	Freedom of Expression in China	Ming Zu	22
2.4	We Want to Break Free	Vikram Govindan	24
2.5	Three Challenges for China	Ta-Chih Hsiao	26
2.6	Universal Health Insurance and Lifetime Employment in Japan	Ryotaro Kato	28
2.7	The Future of Higher Education	Zhou Li	30
2.8	North Korea: An Evil Country or Just a Trouble Maker	Hong Min Park	32
2.9	Changing the Culture of Health	Chiaki Sato	34
2.10	More or Less Quantification?	Yuanming Shan	36

MEDIA & POLITICS

3.1	Why China's Young Generations Were Angry	Qing Nian	40
3.2	The Democrats Can Learn from the Democrats	Karavikar Svetasreni	42

ENERGY & ENVIRONMENT

4.1	The Real Solution to America's Thirst for Energy	Yanjiao Xie	46
4.2	Biofuel: A Savior of Our Future?	Ziyang Zhang	48
4.3	Bottled Water: A Double Debt to Energy and Environment	Chuanzhen Zhou	50

» A core mission of the McDonnell International Scholars Academy is to develop future global leaders. We pursue this by recruiting outstanding graduates of partner institutions from around the world for PhD or professional degree programs at Washington University. But it is more than academic talent that we seek. We also seek McDonnell Academy Scholars who have an interest in broader societal issues, and once they are here, we provide them with opportunities to develop their leadership skills. These opportunities include experiencing the cultural and political life of America, learning about other societies, and meeting major figures from business, government, academia, and the nonprofit sector.

GLOBAL LEADERSHIP VISIONS SERIES

In addition to fostering leaders at the individual level, the Academy seeks to create a leadership *network*. This requires bringing Academy Scholars together on a regular basis to participate in cultural and social events and to work in group settings. These activities lead to lifelong friendships, but they also produce deeper understanding of the perspectives of others, including those with whom one may disagree. Our hope is that Scholars' friendships and understandings will serve them well as they pursue their individual careers and participate in the Academy network in the decades ahead.

In an effort to create this network, as well as to develop leadership and communication skills, all McDonnell Scholars participate in special activities. These include the "Global Leadership Visions" series in their second year in the Academy. This involves Scholars' giving short public presentations on topics of their choosing. The topic might grow out of Scholars' own research, or it may have to do with an issue that concerns them more generally as global citizens. Each of their presentations is followed by questions from the audience made up of Scholars, Academy Ambassadors, members of the Advisory Committee and the Washington University and St. Louis community. The Scholars then follow up by writing the op-ed pieces that appear in this booklet.

These oral and written presentations showcase the considerable talent of the Scholars and prove to be good settings for honing their communication skills. The presentations also provide a forum

where some unexpected differences of opinion surfaced. As I listened to the presentations, I sometimes got the impression that members of the audience were surprised – if not shocked by what the Scholars said, but that is precisely the point. It challenged us all to move, at least for a few minutes, beyond our accepted wisdom. I hope it proved to be as fascinating and as much of a learning experience for Scholars as it was for myself and others.

We invite you to take a few minutes to read the following op-ed pieces that grew out of this process. You will find reflections on regional political issues, critiques of the U.S., calls to action for dealing with environmental problems, and a host of other fascinating thoughts. It will be interesting and inspiring for all of us to drop in again on these Scholars in a decade or two to see what they are saying and doing about the issues they raise here. Much of the world's future will depend on how they and their generation deal with them.

James V. Wertsch, Director

McDonnell International Scholars Academy

SCIENCE & TECHNOLOGY



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BASIC RESEARCH: TO FUND OR NOT TO FUND?

Having a conversation with the person sitting right next to you on an airplane can be discouraging. It usually starts out with the question: “Where are you from?” After hearing that I have been in the United States for less than three years, I usually receive a kind compliment for speaking fluent English. Right after that, there usually is the awkward moment where I have to explain that Taiwan is not Thailand and Tibet is not part of Taiwan.

However, what is even more discouraging is the second question: “So what do you do?” I often try to summarize my answer in few sentences in the hope of avoiding or at least not causing more confusion: “I am a graduate student in molecular cell biology. I study bacterial cell division.” My collection of reactions to date ranges from “Bacterial cell division?” “What’s the point of studying that?” to “Why not cancer research or something?” to the puzzling look of just “Hmm.” Having a conversation with the person sitting next to you on an airplane can be thought-provoking. It makes you wonder where exactly you are from and whether there is actually a point to what you plan to do for a career.

Even though the person sitting next to me on an airplane may not represent the majority of Americans and may not necessarily be “politically correct,” the “why-fund-basic-research” attitude seems to be shared by the U.S. general public and government. As pointed out by William Brody in the *Financial Times*, “the West has lost the will to fund basic research,” particularly the United States. As a matter of fact, the National Science Foundation used to favor basic research without regard to potential application. However, it was directed by an Act of Congress in 1969 to favor applied research, and the trend towards greater funding of such proposals has continued to date.

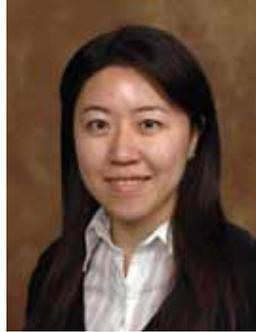
A huge portion of the National Institutes of Health’s \$28 billion budget in 2007 was aimed at treatments and therapies for specific diseases rather than at basic research in cell and molecular biology. While countries like Israel, Sweden, Finland, and Switzerland are pouring more and more of their funding onto basic research, the United States has been cutting back. John Marburger, science adviser to President George W. Bush, asked the question that has been lingering in my mind: “Is the United States spending enough on basic research?”

Among the arguments against funding basic research, what I find most intriguing is that applied research is more “valuable” than basic research, whether in economic terms or other value systems. It is difficult to see why research has suddenly had to start defending and justifying itself on the basis

of its potential applications. The value and essence of research, as the name indicates, lies within itself: re-search, search after a previous search. For those who cannot appreciate the inherent beauty of basic research, something to bear in mind is that it provides the foundation for application. As the National Science Foundation director Dr. Arden Bement puts it, “often the connection between an area of research, or even a particular scientific discovery, and an innovation may be far from obvious.”

When Albert Einstein figured out the theory of relativity, he had no idea that it would eventually bear fruit in the form of the global positioning system. Likewise, basic research in nuclear magnetic resonance led to medical diagnosis, and the discovery of *Penicillium* mold led to totally unanticipated applications in antibiotics.

In other words, it is only through basic research that we reap the benefits of applications that may arise from it. It is not only short-sighted but almost foolish not to fund an area of basic research just because its potential applications are far from obvious.



For those who have sit next to me on an airplane, yes there is a point in funding and doing basic research even though it may not cure cancer or AIDS tomorrow.

For those who are still clinging to arguments about the economic relevance of applied research, allow me to go back to William Brody’s point that we run the risk of slipping into economic irrelevance if we think that the knowledge we possess today will punch our ticket to the world economy of the future. Basic research should not be sacrificed for applied research. To fund or not to fund, that should not be the question. Basic research needs to continue to occupy a top position in our funding priorities.

→ **An-Chun Chien** is the Lee Foundation Fellow in the McDonnell International Scholars Academy and a Ph.D. Candidate in the Division of Biology & Biomedical Sciences at Washington University in St. Louis. She received a Bachelor of Science degree with honors in Biochemistry from National University of Singapore in 2004.

STEM CELL RESEARCH: WHERE DOES IT STAND?

In June 2007, the media broke an exciting scientific story about how stem cells had been created that could replace “immoral” embryonic stem (ES) cells. A Japanese research group led by Dr. Shinya Yamanaka generated induced pluripotent stem (iPS) cells by introducing four genes into adult mouse skin cells. This result was repeated with human skin cells in November 2007.

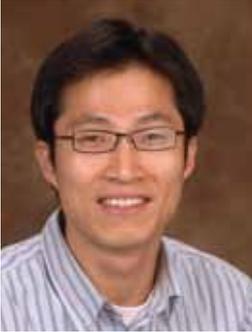
This exciting discovery suggested that patient-tailored stem cell therapy was just around the corner and longstanding difficult ethical controversies could be at an end.

Since human ES cell lines were first established by Dr. James Thomson in 1998, this topic has generated great excitement because stem cells appeared to be able to replace damaged tissues of patients. For example, stem cells could be used to replace degenerated neuronal cells in Parkinson’s disease patients. However, because isolating ES cells requires the destruction of embryos, the effort has raised heated ethical controversies.

In the U.S., these controversies led to limits on federal funding for ES cell research. In addition, practical difficulties in obtaining a sufficient number of embryos have exacerbated the complexity of ES cell research. As an alternative, adult stem cells have been studied, but their limited potential to differentiate into various types of tissues puts the application of adult stem cells in question.

The great promise of iPS cells seemed to be that they could circumvent the difficulties of ES cell research. Since iPS cells are generated from relatively undifferentiated somatic cells of adult human bodies, there is no need to use embryos, and this resolves the ethical concern over embryo destruction as well as the practical difficulty of obtaining embryos. Furthermore, since iPS cells can be derived from an intended host, iPS cells do not have the problem of rejection reactions when they are transplanted back into the host. These appealing features of iPS cells have led many people to suggest that ES cell research should be stopped and all resources should be dedicated to iPS cell research.

However, the situation is not as simple as it first appears. First, the method used to introduce genes into somatic cells may have side effects, such as causing cancer, because it uses viral vector techniques which introduce their own genetic material. Given that a high risk of developing cancer has been reported in the clinical trials of gene therapy using viral vectors to deliver genes, a great deal of research is required to overcome this problem.



Second, although it is reported that iPS cells are not fundamentally different from ES cells, this does not mean that they really are the same. Slight differences may produce

substantially different consequences, such as variation in the functional ability of tissues or organs when they are regenerated from stem cells. Furthermore, even the use of iPS cells is not fully free of ethical issues because iPS cells may be used for reproductive cloning by generating sperms and eggs from iPS cells. It is clear that several technical and ethical problems will have to be resolved before iPS cell research can proceed to clinical applications.

Despite the problems of iPS cells, they now are the best option we have for future stem cell therapy, and in my view stem cell research should move in the direction of using iPS cells. However, this does not mean that we should stop research on other types of stem cells. Rather, we need to continue research on ES cells and other adult stem cells that have been studied so far. Just as research on ES cells led to the generation of iPS cells, more knowledge of ES cells may help solve other problems of iPS cells. Furthermore, other types of adult stem cells may offer alternative strategies to avoid the problems of iPS cells.

Without a doubt, the creation of iPS cells is a breakthrough in the field of stem cell research. The development of iPS cells as a practical and ethical option shows great promise for the treatment of various types of diseases and injuries, and it will propel us into a new era of stem cell therapy. However, there are undoubtedly scientific and ethical issues that we have not yet appreciated. Research on iPS cells shows great promise, but it is just the beginning of another round of stem cell research. For the good of all parties, in the next round of research, ES cell and other adult stem cell research should be allowed to proceed in tandem with iPS cell research.

→ **Hyun Cheol Roh** is in the McDonnell International Scholars Academy and a Ph.D. student in the Division of Biology & Biomedical Sciences at Washington University in St. Louis. He received a Bachelor of Science degree in Genetic Engineering and a Master of Science degree in Biochemistry from Korea University – Seoul, Korea, in 2003 and 2005, respectively.

ENERGY POVERTY IN RURAL INDIA: IS MODERN TECHNOLOGY A REMEDY?

According to the International Energy Agency, “Without access to modern, commercial energy, poor countries can be trapped in a vicious circle of poverty, social instability and underdevelopment.” India is one of the major countries that are going to face the challenge of providing energy to a rapidly growing population and economy. The power sector is an important ingredient in the country’s development, but as it now exists, this sector serves only a small portion of the country’s population. The government’s emphasis has been on powering industrial, commercial, and urban growth, with little talk about how to bring modern power to the villages that still contain 70% of India’s population. There is a clear disconnect between energy policy and some truly pressing energy problems.

In developing countries, just as the great majority of people without access to water live in rural areas, so do most of the 1.6 billion people without electricity. One important way to meet the energy needs of poor rural areas is through practical, small-scale efforts involving improved cook stoves, mini and micro hydropower projects, and other small renewable energy sources such as wind-powered pumps for groundwater. Massive hydropower projects that feed transmission lines headed to mines, industries, and big cities all too seldom provide benefits to rural people.

In India, around 7 million urban households also do not have access to these innovative, yet practical small scale technologies and around



16 million people rely on traditional forms of fuel for cooking. Today there are few programs to address their needs. Programs that focus only on rural electrification

and energy supply in rural areas neglect rapidly expanding urban populations lacking access to electricity and clean energy. These populations will only grow more quickly in the future, and ignoring them can be a source of major problems.

A major issue for both urban and rural settings in India is the widespread use of environmentally unfriendly cook stoves. In reality, the burning of biomass (e.g., wood gathered from the countryside) will continue throughout the developing world for some time to come. Hence there is a great need to find ways to consume wood fuels in more efficient and sustainable ways. Over the long run this should not be taken to preclude the use of wind power, solar thermal power (sunlight used to heat air or water), photovoltaic cells that produce electricity directly from sunlight, and small-scale hydropower. However, in the short term, the problem of how to increase the efficiency and reduce the very harmful environmental effects of widely used cook stoves remains.

Burning of biomass in the traditional stoves emits a large amount of fine particulate matter, carbon monoxide, and many organic compounds. Exposure to the smoke from these ancient stoves causes a decrease in lung function, increases the severity of lung diseases, and aggravates heart conditions, asthma, pneumonia, and bronchitis. The carbon monoxide emitted also causes heart pain. Long term exposure may lead to chronic bronchitis, nasal, throat, lung, blood, and lymph system cancer.

An ongoing field sampling project that I and others are conducting in rural India indicates average emissions from traditional stoves that are much higher than the National Ambient Air Quality Standard. This problem appears daunting, but practical and financially sustainable solutions exist.

In addition to raising awareness of cooking practices, health impact, clean fuel, and the importance of kitchen location and ventilation, it is possible to greatly reduce exposure to harmful smoke by developing improved cook stoves and solar cooking devices.

Concerted efforts by governments, policymakers, the private sector, and NGOs, coupled with significant local participation, have already produced some impressive results, but much more can be done.

What are the World Bank and governments doing about energy access in developing countries? In recent years the Bank's work in energy has largely focused on making existing energy supply and consuming industries more efficient, opening them up to competition, and encouraging private sector participation. Addressing energy and environmental issues associated with cook stoves in India must be part of the effort to address this very large and complex problem. While it may be hoped that biomass based cook stoves will be replaced by cleaner, more efficient means in the long run, there is clearly a pressing need to deal with today's massive problems now.

→ **Manoranjan Sahu** is the Energy and Environment Research Group Corporate Fellow in the McDonnell International Scholars Academy, and a Ph.D. student in the Department of Energy, Environmental, and Chemical Engineering at Washington University in St. Louis. He received a Master of Technology degree in Environmental Science and Engineering from the Indian Institute of Technology Bombay – Mumbai, India, in 2001.

THE BRAIN: OUR NEXT GENERATION SUPPORT DEVICE

Do you believe that you can keep critical memories for your entire life? Are you sure that you are free from neurological disorders such as Parkinson's or Alzheimer's disease? We all wish to retain and expand our mental abilities, and this has made the brain sciences of such great interest today.

The capacities and limitations of the brain are now at the forefront of scientific inquiry just as computers were a few decades ago. Computers and computerized devices have come to take on many new roles. However, as logical devices that are external to our bodies computers are limited. Among other things, they cannot – at least yet – interpret emotion. Our brain is also capable of remarkable logical analysis and has a biological interface that somehow analyzes emotion. Contemporary studies in brain science can shed light on how to maintain, and perhaps even expand our functionality.

Although there are concerns about computerized society, the fact is that we have benefited by it immensely and have spent a great deal of our time using computers voluntarily rather than at what otherwise might be boring and repetitive jobs. The concern over losing essential features of our nature is less convincing today after being discussed for at least a century. In today's world people live in the IT stream rather than the life of a caveman. It turns out that we want computers to address all sorts of problems facing us in the future.

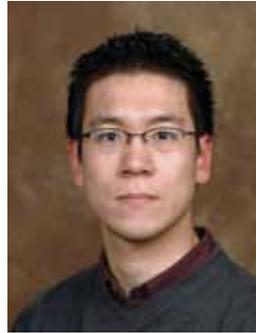
With this as background, consider the brain computer interface (BCI), which may be the next frontier of computer “supportive devices.” The study of BCI examines the interface between an external device and our brain. In general, there are two applications of BCI. First, BCI can be used to actually alter brain functioning. A research group at the University of Washington in Seattle imposed long-term brain plasticity by implanting a neurochip that bypasses one area's functionality and links to another. A few weeks after the implant, the animal demonstrated new forms of behavior.

How is this possible? Synaptic plasticity is the key factor in explaining this phenomenon. The idea that neurons that “fire together, wire together” is the main theme of the Hebbian rule named after psychologist Donald O. Hebb. The Hebbian rule predicts that after externally introducing intracortical micro-stimulation which is synchronized with pre-synaptic action potentials, neuronal networks will strengthen existing connectivity with

post-synaptic neurons. The newly wired connection substitutes a targeted functionality for an original pattern. In short, brain plasticity gives an externally introduced electrical device the potential to enhance our ability on demand or fix a malfunctioning brain area.

Studies of BCI may also make it possible to communicate with external limb devices by decoding brain signals. In one laboratory patients who could not control their limbs showed signs of managing to move robotic arms or legs through thought or brain commands. Recordings of electrical signals from brain such as electroencephalograms and electrocorticograms were analyzed with well-established stochastic signal processing methods.

Under the optimum decision theory, the analyzer can communicate with an external device. It is also possible that emotion, memory, attention, and cognitive functions can be expanded. These two basic results from contemporary research have opened the possibility that the brain will be our next generation supportive device.



As I noted at the beginning, BCI will lead to a host of new technical, social, and biological concerns, and these will have to be the object of serious discussion. Besides these concerns,

it is obvious that we are still far from being able to build stable BCI systems. However, scientific research and the practical applications that follow promise to expand at an even quicker pace. Despite the concerns that are sometimes raised, we will benefit from the contemporary study of the brain, and then we will figure out positive outcomes rather than negative effects as occurred during the industrial revolution. Ultimately, BCI will have a critical impact on the future of human beings.

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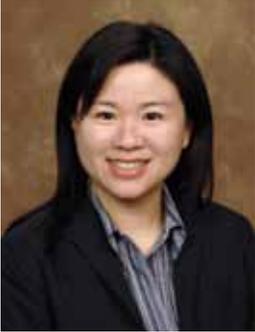
DEPRESSION: NOT JUST IN SOMEONE'S HEAD

A couple years ago, I was awakened in the middle of the night by a phone call from my friend. He told me that he could not stop wanting to put a gun to his head. I called 911 immediately. When I arrived at his house, he was safe and in an ambulance, being cared for by an emergency medical team. I was so relieved that he did not pull the trigger. When I hugged him, he whispered, "I think I am very sick. I need help."

My friend had been suffering from depression. His onset came in his early 20s, but he did not recognize it as a major mental health problem. Depression is one of the leading causes of disability in the world today according to the statistics of the World Health Organization (WHO). At its worst, it leads to suicide with the loss of about 850,000 thousand lives every year. WHO has recognized depression as a global health problem and the fourth leading contributor to the global burden of disease. In 2007, WHO reported that people who had depression along with other chronic diseases like asthma or diabetes had much lower health scores compared with people with a chronic disease only.

Social stigma and lack of understanding have been tremendous barriers to effective medical treatment for patients with depression. My friend followed his doctor's instruction and took medical leave to receive treatment. Unfortunately, his colleagues could not understand the situation, instead insisting that his problem was just in his head and depression was his excuse for avoiding work and social responsibilities. These are very wrong and dangerous ideas about depression. What they fail to understand is that depression is a common disease like cancer or an infection.

Depression is a medical disorder that can occur in people of *all* genders, ages, and social backgrounds. Modern medical research has shown that depression is associated with genetic predisposition, chemical imbalances in the brain, chronic diseases, trauma, and social-economic change. It is a disease that can be reliably diagnosed and treated in primary medical care.



With antidepressant medications and counseling, sixty to eighty percent of patients are capable of coping with the disease and professional and personal life stresses.

However, to date, no more than twenty five percent of patients (in some countries even fewer than ten percent) receive proper medical treatment. Untreated depression is not only a threat to an individual's health or life but also a loss to a nation's economic productivity.

After living in the U.S. for study for three years, I have not lost the capacity to be stunned whenever there is gunfire on a campus or at a shopping center. I have been even more struck, however, by the fact that the suicide rate among 45-to-54-year-olds increased nearly 20 percent from 1999 to 2004 according to the latest study released by the federal Centers for Disease Control and Prevention. I have put this together and begun to wonder whether depression can be one of the causes of these episodes of gun violence. In addition, I also wonder if social stigma, misunderstanding, and lack of proper medical treatment can be equivalent to bullets that take away people's health and life. Everyone needs to recognize depression as a serious global health problem, and we all need to take on preventing

suicide and improving human mental health as our task. There's a lot more we can do like increasing awareness of depression in the general public, helping depressed people reach proper medical treatment, improving the health care system, and supporting basic and clinical research to better understand the biochemistry and physiology of depression. Last but not least, everyone should take the time and effort to live a good physical and mental health. Depression is a common disease, and we all need to turn to medical help when concerned about the mental health of our family, friends and ourselves

→ **Wei-Jen Chua** is in the McDonnell International Scholars Academy and a Ph.D. Candidate in the Immunology Program of the Division of Biology & Biomedical Sciences at Washington University in St. Louis. She is a graduate of Taiwan National University – Taipei, Taiwan.

HOW LONG CAN CHINA'S ONE CHILD POLICY GO ON?

China's one child policy, implemented in late 1970s in an attempt to address problems of over-population and the environmental, has been in effect for three decades.

Authorities estimate that the country has about four hundred million fewer people today than it would have had without the policy.

The one child policy has allowed the country to provide better health service for women, increase the involvement of women in the labor force, and have other benefits. In addition, however, it has had several side effects, some of them unwanted.

One such problem is gender-selective abortion and child abandonment. China has a long tradition of preferring male offspring. In recent years, the widespread availability of ultrasound technology has made the illegal practice or gender-selective abortion much more widespread. And in some rural areas parents abandon unwanted children, most of whom are girls, as part of their effort to escape heavy fines for breaking the one child policy.

These abandoned children end up living in state-sponsored orphanages, with thousands of them being adopted by foreign and Chinese parents each year. Data from the U.S. government show the number of immigration visas issued to children coming from China increasing steadily over the past twenty years. Girls make up a majority of these children, and the proportion of girls has increased over time. Illegal practices in China stemming from the one child policy have led to a gender-based birthrate disparity of 117 boys for every 100 girls in 2000. According to official reports there will be 30 million more men than women in 2020, a disparity that has great potential for social instability.

The one child policy has also led to a severe problem of population aging in China. The country became an aging society in 2000 with 6.96% of the population over 65. In 2004, this figure increased to 7.58%, and it is estimated that it will stand at 16.1% in 2020. As a result, the elderly-to-worker ratio keeps increasing, moving from 1:12.8 in 1975 to 1:9.3 in 2005. Looking back over the history of Europe and North America, such changes occurred over a period of one hundred and fifty years on average. China has compressed this into only one fifth of the time, leading to the creation overnight of an aging population. And based on the projected data, the aging population will increase much faster than populations in other age groups over the next one hundred years.



Because of the one child policy, family structure in China has changed greatly over the past thirty years. Nowadays, a “4-2-1” family is very common, meaning the only child in

the family has to support his or her two parents and four grandparents. At the same time, social security and social welfare provide only a low level of support, albeit to a wide range of people. If a single child cannot support the entire family, then there is little guarantee of support for the elders. One consequence of this is that people save a great deal for retirement. The changes in family structure that derive from the one child policy have challenged traditional patterns of senior care in families and also allowed people to rethink family planning. Today some local governments are encouraging the creation of community rest homes to take over care for senior citizens. In addition, some provinces now allow couples to have two children if both members of the couple were only children.

Today we can hardly dispute some of the benefits of China’s one child policy. It has clearly been an effective way to slow down population growth in China, and the government continues to follow it. For all the reasons mentioned above, however, a question commonly raised in today’s context is

how long this policy can remain in force. The answer seems to be a while longer. On the other hand, changes have already been introduced to loosen the restrictions of this policy. These changes have appeared only in certain areas or among certain groups, but they can be viewed as early attempts to gradually do away with this policy.

→ **Juanyi Yu** is in the McDonnell International Scholars Academy, and a Ph.D. student in the Department of Electrical and Systems Engineering at Washington University in St. Louis. She received a Bachelor of Science degree in Engineering from Chinese University of Hong Kong in 2006.

FREEDOM OF EXPRESSION IN CHINA

Once when I was a little girl, my friend Lin and I started learning piano together. We both dreamed about having our own pianos some day. But later, Lin's mom got sick, so sick that she couldn't even recognize Lin. The family was almost broke because of that. The day my dream came true, I told Lin, "I'm sorry that you can't get the piano you dreamed. You can play mine." Lin shook head, "Ming, you're wrong. I love piano, but that's not important any more. All I want is for my mom to get well and to have a happy family again. I would give up everything to get our peaceful life back."

As everyone knows, the Chinese government has tightened controls over newspapers, television, the internet, and other media over the last decade. Many websites have been filtered, or even blocked by Chinese authorities. Countless articles in other countries have been published attacking Chinese authorities and calling for freedom of expression in the country. Perhaps surprisingly, the Chinese people that I've discussed this with, both in China and in the U.S., rarely express such concerns. Most support and believe in the necessity for this kind of governmental restraint.



Culture and history are powerful forces that we should never overlook. China has a unique culture that is deeply rooted in Confucianism, and this has led to strong beliefs

about loyalty and obedience over countless generations. Even contemporary Chinese education reflects this conservative culture: beginning in early childhood, students are rarely given the chance to speak up and experience freedom.

History plays an important role in this perspective. The past 5000 years in Chinese history have not been a period of peace and freedom, but of invasion, war, and social conflict. The Chinese people have constantly witnessed and hence remember killing, humiliation, and poor living conditions during long periods of volatile social conditions. After the establishment of People's Republic of China in 1949, peace was restored and living conditions improved, and people have felt grateful.

Unfortunately, the Cultural Revolution taught everyone another bitter lesson about freedom of expression. During this decade from 1966 to Mao's death in 1976, a chance mistake such as sitting on a piece of newspaper with Chairman Mao's picture on it could lead to imprisonment, and any language that was slightly against the party could

result in charges as severe as being a “traitor.” During this time the notion of freedom was translated into “guilt” and “disaster.” The country learned to become more cautious and obedient afterwards.

What’s going on now in China? On the positive side, we see fast economic growth, great technology advancement, and vastly improved living standards and infrastructure in most areas. On the negative side, the gap between the rich and the poor widens, there are major problems in the medical and education systems, and the country faces severe environment challenges. As a country of 1.3 billion people, 56 nationalities, and hundreds of native languages, the priority of the leadership in China is to build a harmonious society. Without social harmony and political stability, a country as vast and complex as China could easily devolve into chaos. Who would then be willing to invest in China? Who will then have energy and resources to build the education and medical systems? Freedom and democracy are still new terminologies in Chinese vocabulary, and they are new for reasons that are grounded deep in the history and culture of this ancient but thriving land.

Here in the U.S. I see another point of views from people of varying backgrounds, expertise, objectives, personalities, and understanding of China. All I’m hoping and asking of you is to be open-minded and curious about the reasons behind the facts. For my friend Lin, the dream of a piano could not possibly surpass her desire for the well-being of her mother.

As much as freedom of expression matters to the Chinese people, they cherish the harmony of the economy and social environment in which they live and thrive even more.

→ **Ming Zu** was the Cabot Corporation Corporate Fellow in the McDonnell International Scholars Academy at Washington University in St. Louis from 2006 to 2008, while studying for her Masters in Business Administration in the Olin Business School. She received a Bachelor of Science degree in Electronic Engineering from Tsinghua University – Beijing, China, in 2000. In the summer of 2008 she accepted a position at Emerson as a Logistics Business Analyst.

WE WANT TO BREAK FREE

India's economic liberalization has led to explosive economic growth and unprecedented wealth creation. But we're still a socially conservative nation. Marriages are forcibly "arranged," public displays of affection are taboo and often punished, careers aren't chosen but imposed, and teachers, parents and "elders" decide what's good and what's right. We – young India – need to break free. Free! I tell you...

Why do Indians struggle with so little success to win medals at the Olympics? Why does real innovation in science, technology, and business escape us? Why do we accept the decrepit state of our public, civic institutions? Why do Indians hesitate to talk about sex when our country is reeling from an AIDS epidemic? Because these activities are risky, and risk is a matter of choice. Most Indians are taught from an early age, that they must tread the safe and proven path of being a doctor or engineer, and not risk going into business for themselves or become musicians, athletes, or artists to make a living. India doesn't produce risk takers because most Indian institutions, from the family unit to school and the university are socially conservative. At each stage, conformity is emphasized.



I've known students who were driven insane and even to suicide by an unforgiving system that mercilessly punishes failure – students who could have made a valuable contribu-

tion to the world, but were denied the opportunity because they didn't have the right grades. Grades! You're only as good as your grades in class, that's what they teach you, right from kindergarten.

Did you know that South India is the suicide capital of the world? That's right, so much pent up emotion and ambition and no way to let it out. Studies have shown that two out of three children in India are physically abused. Why? Kids don't report the abuse because they don't know that they can... they live in a society so used to following orders.

India needs social liberalization. This is a call for a privately funded grass roots organization that promotes liberal ideals, that places choice at the center of existence.

An organization that funds students' groups around the country, one that could go into schools and colleges and oppose the imposition of uniforms, oppose censorship on women's attire, oppose censorship on internet use, oppose forced recitation of "national" songs.

This would be an organization that promotes bold career choices and policies that celebrate personal choice. An organization that instills in Indians the idea that their choice matters most, even if those choices run counter to so-called "Indian traditions and values." An organization that encourages you to talk back!

Millions of Indians are oppressed, depressed, and abused because they're locked into a system that places religion, tradition, social acceptance and appearance over the interests and aspirations of the individual. Many don't know what they're missing...

In a society where politicians increasingly move to the right to garner votes and the left is dominated by communists, a liberal capitalist alternative must be provided forthwith...

Economic liberalization is bound to bring social change, but we must accelerate that change. Movements like moveOn.org supported by billionaires like Soros are what India needs.

So... are they any donors out there?

→ **Vikram Govindan** was the Monsanto Company/ Dr. Norman Borlaug Corporate Fellow in the McDonnell International Scholars Academy at Washington University in St. Louis from 2006 to 2008, while studying for his Masters in Business Administration in the Olin Business School. He received his Bachelor and Masters degrees in Chemical Engineering from the Indian Institute of Technology Bombay – Mumbai, India, graduating in 2006. In the summer of 2008 he accepted a position at the Monsanto Company as a Strategy Analyst.

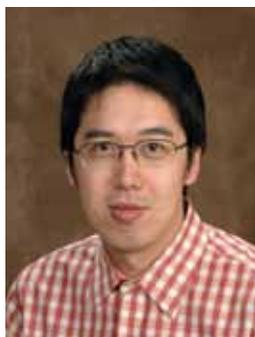
THREE CHALLENGES FOR CHINA

China's rise over the past thirty years has been rapid and massive and has had an impact on everybody's life. From 1979 to 2006 its economic growth rate was the highest of any large country in history. The World Bank estimates China's contribution to world economic growth between 1980 and 2000 at 14%. The International Monetary Fund reports that China is the world's second largest economy in terms of purchasing power and may overtake Germany as the world's largest exporter in 2008. In our daily life, over 70% of the products sold by Walmart are made in China.

In order to achieve such economic success in such a short period sacrifices have been made in the area of civil rights. The Chinese people have tacitly consented to this, not only due to government enforcement but also due to their eager quest for wealth. The Chinese government believes that economic growth is the best solution for maintaining a stable society, and it has tried to convince the Chinese people that the economic growth will continue.

But will the future be as simple as this? Apparently not, for at least three reasons: income inequality and social disparity, population structure, and environmental pollution.

The rise of income inequality in China is the natural result of market forces. Indeed, it somewhat encourages economic growth.



However, history tells us that inequality and disparity are strongly linked to social instability. In spite of this some Chinese government policies artificially

exacerbate, rather than mitigate this inequality. A controversial Chinese government policy that is increasing economic disparity is the policy of “letting a class getting rich first.” As proposed by Deng Xiaoping this idea is to let one class of people get rich and then have them help other people become wealthy. However, the consequence has been economic activity in the private sector that resulted in collusion between officials and “this class” of people, thereby creating serious inequality and social disparity.

The second challenge for China is its population structure. There are two serious problems, and both of them are linked to the One-Child policy. The first is the aging population, and the other is imbalance in the male-female ratio. The Chinese government views the One-Child policy as a solution to alleviate overpopulation and social and environmental problems in China. However, it has caused the population structure gradually to become skewed toward a higher age. As One-child policy children grow up China no longer has the demographic dividend it previously enjoyed in

the global labor market. And because of the poor social security and retirement systems every young person needs to provide support for two parents and four grandparents. This is known as the “4-2-1” family problem in China. The other undesired outcome of the One-Child policy is an imbalance in the male-female ratio because of the preference for baby boys in Chinese society. In 2005 the male-female ratio was about 118 to 100, which is significantly higher than in the other Asian countries. Many Chinese males, especially those with low income or little education, obviously will have difficulties in finding wives. Both of these problems may not only retard economic growth but lead to social instability in China.

The problem of environmental pollution is another urgent challenge for China. In 2005 the Ministry for Water Resources P. R. China reported that about 25,000 kilometers of Chinese rivers failed to meet the water quality standards for aquatic life and about 90 percent of the stretches of rivers near urban areas were seriously polluted. At the same time China is facing serious water shortages. It has about only 7 percent of the world’s water resources but roughly 20 percent of population. Moreover, most of the water is located in the south of China. The north relies largely on groundwater, which is being depleted. Air pollution is also a serious problem. In 2006 China overtook the U.S. as the biggest CO2 emitter in the world, and it is also the largest source of sulfur dioxide emissions. In addition, China produces about 28% of the global emissions of mercury.

These statistics suggests that China is reaching a breaking point. However, most of Chinese people are not aware of how serious the problem is. They live with it because they believe that economic growth must come first. But natural resources are not free and sometimes their cost is not affordable.

Economic growth and environment protection are two ends of a seesaw that the Chinese government should be searching to balance, rather than choosing only the former.

→ **Ta-Chih Hsiao** is the Boeing Corporate Fellow in the McDonnell International Scholars Academy and a Ph.D. Candidate in the Department of Energy, Environmental, and Chemical Engineering at Washington University in St. Louis. He received a Bachelor of Science degree in the Department of Civil Engineering from National Taiwan University – Taipei, Taiwan, in 1998, and finished his Master of Science degree in the Department of Civil and Environmental Engineering at Stanford University in 2003.

UNIVERSAL HEALTH INSURANCE AND LIFETIME EMPLOYMENT IN JAPAN

According to a World Health Organization report in 2000, Japan's health care system ranked in the top in the world in terms of overall goal attainment. In fact, Japanese people live the longest in the world at one of the lowest costs among the developed countries. Many think that the reason is the excellent access to health care provided by Japan's universal health insurance.

In Japan, people can visit any hospital anywhere in the country (and often even outside the country) at any time, and be billed the same amount. All they have to do is to present their insurance card to the provider. Everyone in Japan has an insurance card from an employer or if one is unemployed, self-employed, or a pensioner from a municipality.

Both employers and municipalities are legally required to provide health insurance. Of course, employees must chip in toward insurance premiums, which are usually automatically deducted from their salaries. Residents are also required to make monthly payments to their municipalities. Furthermore, they are all required to pay a 30% co-payment at the hospital, an amount that can be substantial despite catastrophic caps based on age and income.

Many Americans wonder why people in Japan accept universal health insurance that forces them to pay for the health care of others, especially when the costs can be substantial. One factor that may facilitate the Japanese system is the culture of life-time employment prevalent in Japanese society.

Traditionally, Japanese employees do not change jobs. At least 40% of the employees will stay at their companies until mandatory retirement at age 65, and more than 50% will work for the same company for more than 25 years. This is true regardless of the size of the employer, though numbers tend to be higher for government employees.

A high rate of lifetime employment is important because it creates a unique work environment where one's company becomes almost like a family.

In fact, it is not uncommon for Japanese employees to eat dinner at work and to go out for drinks afterwards to strengthen bonding among colleagues, and this is believed to facilitate their work.

Some view life-time employment as a remnant of Japan's feudal system that dates back to 12th century and say the emphasis on loyalty is carried on by today's companies. Others explain it in terms of economic incentives. For employers, it makes



sense to keep the same employees to minimize training costs, and employees prefer job stability. Whatever the reason, the Japanese workplace is a close-knit environ-

ment, and the existence of strong camaraderie makes it very difficult for employers not to offer health insurance.

During the early 1990s, however, when the economy of Japan plummeted and the ability of Japanese companies to compete internationally was called into question, many criticized the culture of lifetime employment. There seemed to be less economical sense in paying high salaries for older employees with mediocre performance. Yet, many companies could not fire their long-time employees, choosing instead to reduce new hiring and to rely on part-timers. This has resulted in large segment of young college graduates working on an ad hoc basis as part-time employees which pays them at least as much as other full-time jobs. The trend continued until the early 2000s as many young graduates chose not to work full-time. Furthermore, many men had confided in the past that they preferred life-time employment because the stability made it easier for them to find wives. This has also changed as women become more independent with their improved status in Japanese society.

Today, there is substantial sentiment in Japan for deregulating the health care market even at the risk of a collapse of universal health insurance. There are myriad reasons for this, and the evolution of employment culture may be one. The demise of life-long camaraderie makes it difficult for the younger generation to see why they should pay for health care of older generations, especially in light of soaring medical costs. Yet the vast majority of the population continues to support universal health insurance, and a recent poll showed that nearly 90% of the population agreed to life-time employment as a good culture, up from 76.1% in 2001. It will be interesting to follow the evolution of employment culture as it further affects the universal health insurance system in Japan.

→ **Ryotaro Kato** was in the McDonnell International Scholars Academy at Washington University in St. Louis and received his J.D. in 2007. He graduated with an M.D. from the University of Tokyo in 1999 and trained as an internist at Barnes Jewish Hospital in St. Louis. He is currently a staff physician at St. Louis VA Medical Center and Washington University School of Medicine.

THE FUTURE OF HIGHER EDUCATION

Over the past 30 years, the world has seen the rapid change of China's economy. However, higher education in China has not kept up. As a result, it is one of the "three new burdens" in China – one of three main targets of growing public discontent, with the other two being health care and housing.

China's current higher education system has grown out of an attempt starting in 1952 to replicate the Soviet model. In this approach, universities had little autonomy. National instructional plans were implemented in all colleges and universities such that the higher education system would closely serve the manpower needs of the country. Students were assigned to specific majors and trained as specialists in those fields so that they could be sent to targeted positions in the labor force after graduation. Before they even were enrolled in universities, students' entire plan of study had already been set up. The only thing they needed to do was to follow the way laid out for them.

The Soviet model worked reasonably well for a centrally planned economy, but it is incompatible with the market oriented economy. Nowadays, the market provides students with major opportunities in China's economy, and the government can no longer guarantee future jobs for them. However, the government continues to play an overwhelming role in many aspects of the higher education system. For instance, it controls enrollments, departmental structure, course syllabi, and the allocation of investment in education.

Because department structures typically are not shaped by market forces, some students from "cold" majors find it difficult to get jobs. What they learned is not welcomed by the job market. Problems are exacerbated by the fact that students have to determine their majors at the beginning of their college life, a time when most of them know little about their career plans. Departmental structure is so rigid that it is not easy for students to change their majors if they no longer like them.

There are also problems with injustice and inequalities in higher education. Recruitment is carried out somewhat independently in each province, resulting in varying admission standards for students attending the same university. If a province receives an increased recruitment allocation from a university, students from that province may have better chances of being accepted by that institution than will those from other regions.

The fundamental problem is that the distribution of higher education institutions is unequal. Most institutions, especially prestigious universities, are located in well developed regions like Beijing and Shanghai, and these provinces and municipalities receive higher recruitment allocations from these universities, leading to disparities among provinces in educational opportunity. For example, although the number of the high school graduates of Henan Province is 8 times higher than that of Beijing, the recruitment allocation Henan receives from Peking University has been about one fourth of that given to Beijing. Students in Henan Province have to



work much harder to win a ticket to their dream school simply because they were not born in the right place. Some students may even change their official permanent residence so that

they can take the exam in a province that offers easier admission to good universities.

The conflict between size and quality of education is another issue people have begun to think about. China launched an expansion of higher education in 1998. Between then and 2005, the number of students in regular higher education institutions increased 500%. However, developing higher education is a long term social project that cannot be accomplished in short time, and with this vast expansion, it has been difficult to maintain quality. Consider, for example, that the number of the teaching staff increased only 137% from 1998 to 2005, which led to a remarkable increase in student-teacher ratios. The facilities in the universities also could not support the dramatic expansion in student numbers. As a result, during finals week, students have to get up very early and wait in a queue outside the library if they plan to study there. There are simply far too few seats compared to the student size.

It should be pointed out that the proportion of young people in higher education in China is still relatively small compared to America. In the end, however, a balance between size and quality must be found in the expansion of higher education for its development to be healthy.

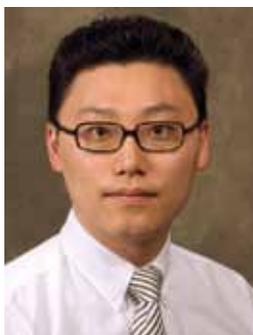
Education is the key to the future of a country. With the success of economic development after the reforms of the late 1970s in China, now is the time for reform in higher education.

→ **Zhou Li** is the Corning Corporate Fellow in the McDonnell International Scholars Academy, and a Ph.D. Candidate in the Department of Chemistry at Washington University in St. Louis. He received a Bachelor of Science degree in Chemistry from Fudan University – Shanghai, China, in 2006.

NORTH KOREA: AN EVIL COUNTRY OR JUST A TROUBLE MAKER?

Since North Korea established its regime in 1948, it has been recognized as a threat by the United States. In addition to the Korean War, several episodes in an ongoing nuclear weapons crisis provide examples of this. However, the North Korea issue should be considered a problem for Koreans, not Americans, to solve. This is all the more so because such an approach would be also beneficial to the United States.

Let's start with the U.S. side of the story. When dealing with North Korea, the United States government has two basic options: a hard-line policy and a soft-line policy. An example of the hard-line approach is treating North Korea as a member of the "axis of evil." Such an approach focuses more on sanctions and presupposes a bilateral relationship between the U.S. and North Korea. On the other hand, a soft-line policy considers North Korea as a potential negotiating partner and focuses more on incentives such as money and food. This second option also utilizes the involvement of other countries such as China, Japan, and Russia.



While these two policies are the main options that present themselves to the American government, the most important policy objective for South Korea is unification with

North Korea. South Korea is not naïve about threats from its northern neighbor, but these are not viewed as life-threatening. The main issue facing South Koreans today is unification. They approach this while keeping in mind the lesson from Germany, namely, "Unexpected consequences might ruin us." Obviously, unification without a big cost is the most preferable option for South Koreans.

So how should North Korea be understood? The first and the most important thing to keep in mind in this regard is that today North Korea is primarily concerned with its survival, not destroying others. Consider the economic and the military power of North Korea. It is the most closed society in the world, and it is one of the poorest as well. To be sure, it does have dangerous weaponry, but the U.S. obviously has much more. From North Korea's perspective the problem is that it is threatened by the U.S. in such a manner that it must think about how to survive.

Given this, what might be an appropriate solution for the Koreans? In my view, the general goal

should be to promote unification without threatening North Korea. Unification with a sudden collapse of North Korea is not good for either of the two Koreas.

One way to achieve peaceful unification is to be proactive in the systematic installation of social infrastructure in North Korea that would reduce the economic shock that will come with change. The two Koreas should be meeting, talking, and working as often as possible, so that they can make North Korea feel free from threat and encourage it to reach out and cooperate with other countries.

The question, then, is, “How might this be valuable to the U.S.?” In one scenario the U.S. could pursue a soft-line policy that would give North Korea something to lose if it did not respond. If it responds to this, it is foregoing the use of extreme options. Then the U.S. could use the negotiation leverage to gain even more. On the other hand, in pursuing a hard-line policy,

the U.S. actually encourages North Korea to use extreme options such as developing a nuclear weapon. This in turn would lead the U.S. to feel more threatened and in a position for both sides to lose more.

Choosing a soft-line policy would actually help the U.S., along with North and South Koreans. South Koreans want to deal with North Korea by pursuing unification without threatening North Korea. Why does the U.S. come in suddenly, make statements that startle North Korea, and force South Korea to pay an unnecessary price? Why is the U.S. continuously threatened by something they themselves have created? There is another approach that promises to be more productive: How about engaging North Korea through less threatening dialogue and action!

→ **Hong Min Park** is the Fila Korea Corporate Fellow in the McDonnell International Scholars Academy and a Ph.D. student in the Department of Political Science at Washington University in St. Louis. He received a Bachelor of Arts degree in Economics in 2001, and a Master of Arts degree in Political Science from Seoul National University – Korea.

CHANGING THE CULTURE OF HEALTH

The distinguished U.S. Supreme Court Justice Oliver Wendell Holmes, Jr. asserted that government by the people should include a way to promote the common welfare through “public health.”

In the 1905 opinion *Jacobson v. Commonwealth of Massachusetts* he wrote, “It is no part of the function of a court or a jury to determine which one of two modes was likely to be the most effective for the protection of the public against disease. That was for the legislative department to determine in the light of all the information it had or could obtain.” In his view the government by the people through their chosen representatives could participate in promoting public health better than a court or jury.

Like other countries the United States has fought with problems of insufficient access, increasing cost, and inadequate quality of medical care.

Challenges for the twenty-first century include providing more access to health insurance while controlling healthcare costs and enhancing the quality of care. These are not easy tasks. In my view the best way to address these problems is to increase federal and state leadership in disease prevention. This proposal may be surprising to many readers. It is a plan, however, that is both attractive and more feasible than previous efforts and it will bring credit to the United States.

Here are some reasons why. U.S. health expenditure per capita is now over \$6000 a year, the highest figure for an OECD member state. Chronic diseases are especially problematic, accounting for about 75% of these health care costs. In fact, the cost of chronic illnesses such as cardiovascular disease, obesity, cancer, diabetes, and arthritis is so huge that it is a burden on the U.S. economic system. The U.S. is now on track to face the dire situation predicted by the CDC in 2003 when it warned, “If current policies and conditions hold true, by the year 2011, our nation will be spending over \$2.8 trillion on health care”. The challenge of preventing disease could be met with new leadership from the federal and state government in the form of effective surveillance and education. The idea for all this is not a new, but was established by the CDC in 2003.

In my opinion the most important thing that government can do for disease prevention is change people’s minds and health consciousness, an effort that amounts to creating a “New Culture of Health.” Much more governmental leadership in disease prevention is needed to motivate people in U.S. to lead a healthier life style. The great efforts of the CDC would work better if complemented by people’s buy-in. Despite the CDC’s efforts at disease prevention and health care, the U.S. population has enjoyed little success in these arenas. This does not mean that the CDC’s idea is wrong, but it needs to be complemented by another instrument: a “New Culture of Health.”

This would be a culture in which people consciously strive to prevent disease and achieve better health. It is an effort that must be made by ordinary people, but it will require governmental leadership.

For example, the “car culture” and the “internet culture,” both of which have drastically changed the U.S. and the world, could not have been created without leadership from both the government and the private sector. In addition to private initiatives, the role of government at both the federal and state level must be recognized as playing a major role in making these new cultures come into existence. Federal and state authorities should create a vision that encourages people to be conscious of their health and of disease prevention.

As a Scholar in the McDonnell International Scholars Academy at Washington University, I have desire to contribute to this change in culture by creating a hub of useful information for better public health. This has taken the form of the “McDonnell Academy Global Medicine Lounge” (<http://www.medicinelounge.com/>). The Medicine Lounge is an initiative by Ryotaro Kato and me to create an innovative website that addresses global healthcare issues.



It is our medium to: 1) challenge governments to think about better health care, 2) provide a hub of information for people from across the world, and 3) provide a model

of collaboration to scholars from around the world. In our view a key for creating the “New Culture of Health” is to coordinate a broad spectrum of government and university efforts. This is an effort to lead the quest for effective disease prevention in a global society.

To date there is no established model for fostering better health through effective disease prevention in the U.S. However, the people could do a great deal with the right governmental leadership to reach the goal of changing the culture of health. We all need to find a way to participate in this.

→ **Chiaki Sato** was a Helen Ette Park Fellow in the McDonnell International Scholars Academy at Washington University in St. Louis, where he received his LLM from the Law School in 2008. He is currently a Ph.D. Candidate in Law at the University of Tokyo – Japan.

MORE OR LESS QUANTIFICATION?

Nowadays there is a trend for investigators in more and more areas of inquiry to harness complex quantitative measurement techniques in their research. While fields such as physics, chemistry, and engineering have been very successful in using quantitative methods, efforts in other areas have become a bit “over quantified” in my judgment. I have doubts that many real world problems in areas such as finance are best understood by adopting such methods.

Take the 2008 buyout of Bear Stearns by JP Morgan Chase, for example. Do you know how JP Morgan Chase computed the bidding prices, first at \$2 and then at \$10 per share? Honestly, I do not know. But I do know that the quantitative models of finance taught in business schools would be very unlikely to arrive at \$2, \$10, or any other whole number for that matter. The valuation of a company’s stocks in such cases is too complex and involves far too many factors to arrive at such round numbers.

Instead, it is often more reasonable to arrive at a general figure based on the operational conditions and financial status of a company. Indeed it would not be very productive in such cases to model something like stockholders’ psychological states and client relationships. My guess is that the \$2 and \$10 bidding prices were based on general experience and elements of compromise. Using basic estimation techniques would probably provide little justification for the prices.

As another warning against putting too much stock in quantitative models, don’t forget the crash of the Long-Term Capital Market hedge fund, which operated under the leadership of two Nobel Prize winners. No matter how sophisticated the models, small random factors can destroy the whole enterprise.

Qualitative and semi-quantitative methods are helpful for research in sociology, finance and psychology, but investigators in these fields tend to overuse advanced mathematical tools to describe the past and predict the future.

These are practices that I see as having doubtful justification. The reason why so many people keep developing these eye-catching models is presumably the illusion of precision and objectivity that numbers bring with them. We tend to think numbers are objective, hard to manipulate, and precise, and these qualities are viewed as providing more power when justifying a line of reasoning or action.

It is important to remember that according to Mark Twain statistics is one of the three kinds of lies. If you really delve into those models, you often come up with a common finding: in many cases the models neither surmount nor solve difficult issues. Instead, they frequently just transfer the failure to understand something from one place to another.

This brings to mind a joke: A buyer asks a vendor peddling flea pesticide if it is effective. The vendor says, “Sure, if you catch a flea, smear the pesticide on its mouth, it will die immediately.” Are the facts caught by vendors of mathematical models any more trustworthy than this? In my experience, it is hard to identify the real benefits of practices such as estimating key parameters or translating verbal descriptions into concrete numbers – despite the fact that such practices are usually quite expensive and time consuming.



On balance, then, the fact that quantitative modeling and measurement are quite successful in natural science inquiry should not blind us to the limitations they have when applied

to human affairs. As a rule, we should be very cautious about quantifying everything. When dealing with problems concerning human relationship, standard experience and judgment often make more sense than complex mathematic models.

→ **Yuanming Shan** is the Emerson Corporate Fellow in the McDonnell International Scholars Academy at Washington University in St. Louis. He is pursuing a D.S.C. in Electrical and Systems Engineering and an M.S. in Finance. He received a Bachelors degree in Communications Engineering from Fudan University – Shanghai, China.

Why China's Young Generations Were Angry Qing Nian

The Democrats Can Learn from the Democrats Karavikar Svetasreni

MEDIA & POLITICS



WHY CHINA'S YOUNG GENERATIONS WERE ANGRY

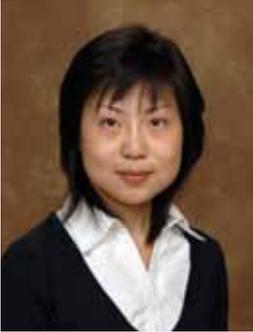
A recent China-related headline at CNN concerned boycotting the Beijing Olympics. The reporter told the TV viewers that while President Bush had publicly announced that he would attend the opening ceremony of the Beijing Olympics, some European leaders had decided not to do so due to China's human rights record.

Another recent China-related headline at CNN concerned the Beijing Olympic torch relay in other countries. Hundreds of thousands of overseas Chinese stood on the street to welcome and protect the torch, but the Western media chose to cast their lights on the anti-China protestors. It might have appeared to TV viewers that the anti-China protestors dominated the torch relay, but the fact was that China's national flags were flying everywhere along the relay.

The most controversial recent China-related news report appeared in March 2008. The Western media told readers that a picture showed Chinese police beating Tibetan monks, whereas the police in the picture were Nepalese, something that is apparent to any careful reader from their uniforms and race. Western reporters might try to excuse themselves in accurate reporting on the ground that to some

extent Asians generally look alike. OK, let's be tolerant and accept this explanation. But how can the Western media explain away the fact that they intentionally edited the picture to accuse Chinese police of attacking the Tibetan monks when the fact was just the opposite? How could they explain that well-educated Western reporters and editors ignored the obvious red cross on the ambulance and report that it was a military car?

The Chinese, especially the young generations, have responded to these misleading reports with an outburst of anger. They have stood up to protest against the Western media for the first time in several years. Large numbers of Chinese have gone into the street to express their anger. Others have used the Internet to present their disagreement by launching the "Anti-CNN Forum" and by collecting on-line signatures.



The Western media were taken aback by this anger and responded by explaining away the outrage by China's young generations as being nationalists.

We have discovered out that our assumptions might have been misguided for a long time. As a result we have lost faith in the Western media, we have come to doubt our understanding of the world, and we now wonder if the Western media hate us just because we are Chinese, regardless of what we do. We have come to be confused about where to find the truth.

→ **Qing Nian** is in the McDonnell International Scholars Academy at Washington University in St. Louis, where she is studying for a J.D. in the School of Law. She received a Master of Laws from the University of Hong Kong in 2006.

Yes, we are patriotic because we were proud of China's development over the past few decades. But that is not all. When we saw how the Western media reported recent events, we were also angry because we felt betrayed by media that in the past we had come to trust.

I can still recall my first class in the School of Journalism and Communication back to my college days in China. My professor used the Western media as a model to teach us the basic principles of news reporting: truth, fairness, and balance. I, as many young Chinese, for many years, had believed that the Western media were where we could find the truth. At that time, many of us might even have criticized our country based on the information provided by the Western media.

Ironically, the Western media have now taught us another lesson, namely that they are not to be equated with sources of the truth.

THE DEMOCRATS CAN LEARN FROM THE DEMOCRATS

Months ago during a conversation on politics, my conversation partner said to me in a mocking manner, “It’s interesting that you’re a Democrat here but you identify with the elite party in Thailand.” He was talking, actually, about the Democrat Party of Thailand led currently by Abhisit Vejjajiva. Of course I started with disagreement and denial that I am an elitist. “No”, he said, “but your party is”.

Today, the world is observing the 2008 U.S. Presidential election with keen interest. We are witnessing one of the most important elections in recent history because the next president of the United States will be, in one way or another, the captain that will steer the future of America, and with it the world. As I watch with great excitement, I see political pundits saying one of Mr. Obama’s weaknesses is his inability to connect with “blue-collar workers” who make up an important voting bloc that the Democratic Party needs to win the White House. This reminds me of Abhisit Vejjajiva.

The Democrat Party of Thailand has a long history of being elitist and upholding a royalist but liberal ideology. It is the oldest political party in the country and still reflects strong ties to its roots as the party of princes. If given the option, they will choose policies that academics and experts identify as being good for the long-term future of the country over populist policies that will achieve little more than pleasing the people. Not surprisingly, the party’s biggest and strongest supporters are college graduates, royalists, professionals,

students, and academics often living in Bangkok and other cities around Thailand. Another base of the party has been Islamic voters in southern Thailand. These blocs combined are small and will not grow to become the majority of the country anytime soon.

When the next election comes around in the Land of Smiles, the Democrat Party needs to take a few lessons from American politics to finally attract some of the rural voters who have favored figures like Taksin Shinawatra and his populist policies. We in Thailand may like to cite vote buying and election fraud as making it possible for the former Thai Rak Thai party to become the first party to hold a big enough majority in Parliament to create the first one party government. But attributing this development to dirty tactics will not help win votes - or help bring Mr. Abhisit become prime minister. We “elitists” in Thailand have to come to terms with the reality that some people genuinely like Mr. Taksin.

Just as Mr. Obama and his strategy team have been doing, Mr. Abhisit needs to “change the map” of the Democrat Party and expand its voting base. As is well known, the votes he needs are in rural Thailand and mostly in economically distressed areas. This demographic sector has not in my memory been Democrats and that has to change. Mr. Abhisit has to convert a large enough percentage of that population to be able to close the gap between the Democrats’ loyal base and the votes the party needs to seat him as prime minister.



He will have to follow a strategy similar to what Mr. Obama has pursued. While Mr. Obama must woo blue-collar workers, Mr. Abhisit must learn to woo rural farmers.

Mr. Abhisit needs to create a new message that recognizes that Thailand's farmers and others in the agriculture sector as some of Thailand's finest people who have fed the country and the world. Mr. Abhisit needs to assert that they deserve a government that recognizes them and respects their needs and that this government is one led by him - not any of Thaksin Shinawatra's puppet prime ministers.

Mr. Abhisit has to strip his persona of its Oxford educated overtones and retell a story of his life that Thais in every small town and farm can relate to. He has to talk about their worries, about the fact that they cannot afford school tuition for their children or prescription drugs for their aging parents. I remember the member of parliament representing my district from the Democrat party very fondly. I see him at every funeral, farmer's market, and hair salon in the district. When there is a house fire in the area, he miraculously pops up. Rumor has it that he washes his hair three or four times a day as he makes his way into every

salon on the street. He kept his seat in parliament even when Taksin and the former Thai Rak Thai party was at its height of popularity because he connected with the people. The Thai Rak Thai machine threw one of their party's best candidates at him and he still won by a comfortable margin while his peers in adjoining districts lost their jobs.

In the same fashion that Mr. Obama has effectively changed the political landscape of the U.S. election and is fine tuning his message, Mr. Abhisit must do the same. Connection to the people is the key.

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The Real Solution to America's Thirst for Energy Yanjiao Xie

Biofuel: A Savior of Our Future? Ziyang Zhang

Bottled Water: A Double Debt to Energy and Environment Chuanzhen Zhou

ENERGY & ENVIRONMENT



THE REAL SOLUTION TO AMERICA'S THIRST FOR ENERGY

U.S. politicians sometimes approach the energy problem politically, rather than through technological innovation and public education. In the presidential primaries Hillary Clinton lined up with John McCain to propose suspending the federal excise tax on gasoline, implying that the dream of a future with sustainable energy was forgotten, or at least postponed once again.

At first glance it might appear that the gas tax holiday would be a great benefit to people in the U.S. However, according to the Congressional Budget Office, the proposal would save the average person only \$30 over the summer. That is just 33¢ per day! What's worse, the 33¢ could go into oil companies' pockets because they might respond by pushing up their prices. In addition, there would be some unfortunate side effects from the gas holiday proposal: less money for the federal budget and fewer job opportunities created by this budget.

In the view of Barack Obama, "This isn't an idea designed to get you through the summer. It is an idea designed to get them through an election." From this perspective politicians were utilizing the energy issue as a political tool to gain the crown, rather than truly caring about the future of energy and the environment.



Consider what has been proposed and what has actually been accomplished. Some presidential candidates have claimed that they wish to discourage gasoline consumption and

gas-guzzling cars by raising taxes and at the same time to encourage alternative energy by reducing taxes on new, renewable energy technologies. However, they sometimes seem to be doing the exact opposite. The gas holiday proposal suggests that at least some energy plans are just fragile air bubbles.

In contrast to gas holiday proposals, the energy independence and security act outlined by Mr. Bush in 2007 appears serious. However, when we take a closer look, the so-called "energy independence" is just another political solution that is far from a real solution for a sustainable world. Instead of investing in renewable energy, the plan calls for increasing oil storage to attain energy independence and staying longer in Iraq. At the same time, Mr. Bush would veto both tax increases on gasoline and extending tax credits on alternative energy.

Germany has a 20-year incentive program for solar energy, and Japan has a 12-year program, but the U.S. allows only 2 years at most. Mr. Bush's plan

would continue to rely on oil but just try to use less of it, rather than implement alternative energy strategies like biofuel, an approach that has allowed Brazil to achieve “sustainable energy.”

Climate change associated with energy use is the issue that Mr. Bush is least willing to touch. It is as if he takes the attitude: “Oil is our blood, and it comes first. Why should we care about our lungs or skin?” This all misses the common sense point that sustainable energy could lead to a win-win solution for both the economy and environment!

What is really needed is investment in technology for alternative energy and a strategy for commercializing it. There are two ways to approach this.

The first is through government subsidies and tax incentives for the alternative energy industry. Brazil has followed this path by supporting the biofuel industry thereby lowering cost and enabling biofuel to be cheaper than gasoline, and China has built the largest hydropower plant in the world with the help of huge government investments, including support for the relocation of affected people.

A second energy strategy is through investing in research at universities and other institutions.

For instance, Washington University in St. Louis has recently initiated two international research programs on energy and environment, the McDonnell Academy Global Energy and Environment Partnership and the International Center for Advanced Renewable Energy and Sustainability. Both call on students, faculty members, and administrators from Washington University and from universities in other countries to join in the effort.

Finally, we need massive public education efforts to help people understand the importance of sustainable energy and environment. More people must become involved in saving energy and the environment. All of these steps are required if we are to develop a renewable energy industry and ultimately achieve a sustainable society.

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BIOFUEL: A SAVIOR OF OUR FUTURE?

Many a time, my mom complained to me that everything in China is getting more and more expensive. Vegetables are now triple the price of two years ago and pork is becoming a luxury at dinner. I learned the reasons for this from the *New York Times*, which reported that developing countries are demanding more meat and people are trying to make fuel out of corn. Well, if we pay more for our food but make the air cleaner, that's still worth it, right?

Viewing the problem from the perspective of a chemist, the picture starts to get more complicated.

The first problem is that making biofuels, especially from corn, is not energy efficient. Photosynthesis, the process whereby plants store energy, is quite inefficient, meaning the energy density of plants is far lower than that of fossil fuels. Getting a meaningful amount of energy from plants requires fertilizing thousands of acres of land, collecting plants from widespread farming areas, and transporting grain and ethanol. Each link in this production chain requires energy. In the end, corn ethanol generates – at most – only 30% more energy than it consumes in the manufacturing process. According to Martin Eberhard, CEO of Tesla Motors, the U.S. would need to use up 68% of its agricultural land for corn to provide 50% of its fuel needs for transportation.

But what about the environment? Ethanol burns much cleaner than petroleum, to be sure. But consider the effects of the whole industry, producing ethanol consumes a considerable



amount of fuel and releases greenhouse gases, sulfur dioxides, and other pollutants. It's also behind a wave of deforestation in developing countries. Countries like Brazil, Indonesia,

and Thailand are turning their forests into farmlands. Tons of carbon dioxide has been released into the air by burning these forests, millions of wild animals have lost their homes, and huge tracts of land have been polluted by fertilizers and pesticides. Biofuels are in fact a disaster for the environment!

OK, I might not oppose biofuel programs in the U.S. if they could at least stimulate the economy. Unfortunately, they don't. Huge subsidies and profit from corn are not passed on to farmers, but instead have gone to the agricultural companies, processors, and other middlemen. Meanwhile, inflation triggered by land shortages is making basic resources from feedstock to water, fertilizer and food more expensive. Low-income urban residents and poor farmers are tragic victims in this game.

So if corn ethanol does not help solve the energy crisis, why have authorities supported it? Why is so much research passionately devoted to it? It seems that biofuels make the government happy.

They help soothe people's nerve about energy shortages. Politicians are happy because they can win votes by supporting "renewable energy" and get more backing from the agricultural companies. Research institutes are happy because they can get funding. Nevertheless, I am not happy and mother earth is not happy.

Corn ethanol is not a responsible solution to today's energy crisis. In fact, it's not a solution at all. Two of the most precious resources on the earth are land and water, and the ultimate goal of any energy program should be to make more energy with less land and water.

Of course, the specifics of solutions should vary from place to place. Ethanol may be a good solution in Brazil, where it comes from highly productive tropical sugarcane and doesn't need to be irrigated or fertilized. In the U. S., however, the climate is not generous enough to allow people to dig energy from the soil, not even when they use switchgrass, the topic of much of today's hottest debates.

On the other hand, the American terrain provides other opportunities, such as solar panels in Arizona, or hydropower in the north. Nuclear power is another potent alternative, but politicians will need to work harder to prevent nuclear weapon proliferation.

New energy sources are just part of the story. Changing our life style to be more efficient is of equal, if not greater importance. It is unlikely that anything can bring gasoline prices down if we stay addicted to pickups and SUVs. And up to 75% of the electricity used in the U.S. today could be saved with efficiency measures. Energy efficient devices, sustainable manufacturing, and organized recycling systems could save more energy than one can imagine.

The energy crisis relentlessly confronts everyone in the world, but ethanol is hardly a universal solution. We need to work together, to find real solutions appropriate to each region and at the same time optimize our life style and embrace a sustainable era.

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BOTTLED WATER: A DOUBLE DEBT TO ENERGY AND ENVIRONMENT

Bottled water has become an indispensable product in our lives. It starts the day in lunch boxes; it goes to every meeting, lecture hall, and football match; and it's rattling around on the floor of every minivan in America. However, the convenience of bottled water brings us and our descendants a double debt: increased energy consumption and environmental pollution.

Bottled water is not only up to 10,000 times more expensive than tap water, but bad for energy and the environment because of the manufacture, transportation, and disposal of petroleum-based plastic bottles.

Hidden behind the convenience of the bottled water are high energy consumption and extreme environmental destruction.

Processing and manufacturing plastic water bottles, as well as shipping them to market are very energy intensive. The petroleum consumed just to manufacture the world's plastic containers is 1.5 million barrels annually, enough to fuel 100,000 U.S. cars for the whole year. Furthermore, nearly a quarter of all bottled water crosses national borders to reach consumers. For example, the well-known French company Evian exports between 50 and 60 percent of its water to destinations across the globe. That is why bottled water costs as much as \$10 a gallon, – several times the price of gasoline.

Bottled water also carries a heavy environmental cost in the form of adding plastic to landfills, and of course it puts uses natural springs and releases large amounts of carbon dioxide (CO₂) during transportation. Most of the plastic bottles we use are not recycled. Each year, about 95 billion plastic bottles end up in U.S. landfills alone, and it takes around 2,000 years for each plastic bottle to decompose!

In America, most plastic water bottles end up in the garbage or litter. Only 14% are recycled, which is far lower than the 60% that are recycled in China. In the U.S., the inclination and opportunities for recycling outside the home are minimal. In contrast, people in China have a strong awareness about recycling plastic bottles and most keep the empty plastic bottles to sell them for about a penny apiece.



A small portion of people in China make their living by collecting empty bottles and selling them to a recycling factory. In the Hang Zhou Province of China, for instance, a

plastic container recycling factory receives 1.5 to 1.8 million plastic bottles each day. After a series of reprocessing steps, these become soft, elastic, and useful fiber fills, which have many applications.

At one time most Americans got their water only from the tap. But now, they often buy water in a bottle at work, after exercising, or just about any other time during their day. Americans are drinking bottled water at a record pace – 28.6 billion liters in 2005. According to the International Bottled Water Association, that’s about the same amount of water that passes over Niagara Falls in two hours.

Should we decrease our use of bottled water? The answer is definitely yes. A few U.S. cities have started campaigns against drinking bottled water when it is not necessary. For example, the mayor of San Francisco banned city employees from using city funds to buy bottled water when tap water is available. Ann Arbor, Michigan passed a resolution banning commercially bottled water at city events, and Salt Lake City asked department heads to eliminate bottled water.

It’s time to drink tap water, filter our own water, and fill up our own reusable bottles for water on-the-go.

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McDonnell International Scholars Academy



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