

A Second Opinion by an American on Higher Education Reform in Vietnam

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1 Introduction

On many issues of international importance Americans are bitterly divided in their opinions. In the 1960's millions of Americans enthusiastically supported the war in Vietnam. This included not only uneducated people, but also, regrettably, some professors at Harvard and other universities who went to Washington to occupy key posts in the Kennedy and Johnson administrations. At the same time other Americans denounced the war in Vietnam and organized massive protests. Americans do not speak with a single voice.

The purpose of this report is to respond to the document titled "Vietnamese Higher Education: Crisis and Response."¹ That paper has the letterhead of the Ash Institute of the Harvard Kennedy School and the names of Thomas Vallely and his assistant Ben Wilkinson. I will refer to this document simply as the "Vallely report."

The Vallely report is written from a similar point of view to that of an earlier report on higher education in Vietnam that was commissioned by the U.S. National Academies.² In 2008 I wrote a commentary on that document.³ In this paper I will not repeat the points I already made there.

Vietnam's difficulties in higher education are complex, and they have much in common with problems experienced in other countries, especially in the Third World. This paper does not claim to be an exhaustive analysis of the issue. Rather, my purpose is to look at this question from a historical perspective, and to warn Vietnamese mathematicians, scientists, and officials to be very cautious about accepting the analysis and recommendations of representatives of such U.S. organizations as the Ash Institute.

¹<http://www.hks.harvard.edu/innovations/asia/Documents/HigherEducationOverview112008.pdf>

²http://home.vef.gov/download/Report_on_Undergrad_Educ_V.pdf

³http://www.viet-studies.info/Neal_Koblitz_article-vietnamese.pdf

2 History

2.1 Early History

After my first visit to Vietnam in 1978, I wrote a report⁴ in which I commented on the great respect for scholarship that has been part of Vietnamese culture since ancient times:

Part of the explanation for the high status of intellectuals lies in Vietnamese tradition. The most prized tourist attraction in Hanoi is the ancient university Văn Miếu (Temple of Literature), founded in 1076.... The memorial stele for 1463, by the way, contains the name of Lương Thê Vinh, who, in addition to his literary pursuits, was one of Vietnam's best known early geometers.

Such traditions may in part explain why, among all the students from developing countries who study in Moscow, the Vietnamese tend to be the most hard-working and the most successful. Perhaps young Vietnamese mathematicians returning home from Moscow after successfully completing graduate studies may experience a feeling of exhilaration similar to that of their ancestors after successfully competing in the royal examinations.

However, during the colonial period the French failed to develop higher education. The Valley report contains a correct analysis of this:

The problems Vietnam faces in higher education today are in part a consequence of the country's tragic modern history. The French colonial regime that ruled Vietnam from the latter half of the nineteenth century until 1945 invested very little in tertiary education, even in comparison with other colonial powers. As a result, Vietnam missed the wave of institutional innovation in higher education that swept across much of Asia during the early 20th century, when many [of] the region's leading institutions of higher learning were established. As a result, after independence Vietnam had very weak institutional foundations to build on. (This is in stark contrast to China, where, even today, most of the country's top universities were established well before the revolution.)

Although the Valley report is right to sharply criticize the French, the relationship between France and Vietnam also had a positive side. Some of Vietnam's leading intellectuals (such as the mathematicians Lê Văn Thiêm and Nguyễn Đình Ngọc) went to France for advanced training and returned to contribute much to Vietnam. And later, especially during the American war, some of France's most eminent mathematicians and scientists (such as A. Grothendieck, L. Schwartz, and P. Cartier) visited and lectured in Vietnam and tried to help their colleagues. The founder of the U.S. Committee for

⁴A mathematical visit to Hanoi, *The Mathematical Intelligencer*, **2** (1979), no. 1, pp. 38-42.

Scientific Cooperation with Vietnam, Ed Cooperman (who was assassinated in California 25 years ago this month), worked for a year in France in the 1970's and was so favorably impressed with French scientists' activities in support of Vietnam that he was inspired to start a similar group in the U.S.

At the height of the French war advanced classes were given in the Fourth Liberated Zone by Nguyễn Thúc Hào, in a region west of Hanoi by Nguyễn Xiển, and near the Chinese border by Lê Văn Thiêm. In the same period a geometry textbook written by Hoàng Tụy was published by the Việt Minh press. I believe that was the only mathematics book ever published anywhere in the world by a guerrilla movement. These historical facts are well known to many mathematicians because of my interview with Hoàng Tụy.⁵

2.2 1954–1985

The Valley report refers to the period between the departure of the French and *đổi mới* in negative terms as “an era of heavy handed socialist rule.” But it was during this period that Prime Minister Phạm Văn Đồng personally met with Grothendieck to discuss Vietnam's future mathematical development, and several years later personally intervened to insist on the construction of a good building for the Hanoi Mathematical Institute. This was certainly “heavy handed” on his part — as far as I know, no capitalist prime minister has ever insisted on a new building being constructed for mathematicians!

It might come as a surprise to Vietnamese readers of the Valley report that in its discussion of Vietnam's “tragic modern history” only the French are blamed for mistreating Vietnam. The authors seem to have forgotten the entire period from 1954 to 1975, when the United States first supported corrupt tyrannical regimes in the south and then, from 1964 until 1975, occupied the southern provinces and conducted a barbaric war against Vietnam. Nothing the French did can compare to the devastation of this period — when the total tonnage of bombs dropped on northern and southern Vietnam was greater than in any other war in world history, including World War II. Air Force Chief of Staff Gen. Curtis LeMay described the U.S. strategy in Vietnam as follows: “We're going to bomb them back into the Stone Age.”

However, after a little investigation it becomes clear why the section of the Valley report on the “historical legacy” entirely omits any mention of America's role. I learned from the Ash Institute website⁶ that during this time Mr. Valley himself was in Vietnam as a member of the United States Marine Corps. This was one of the organizations that perpetrated war crimes against the Vietnamese people.

In addition, Mr. Valley's office is affiliated with Harvard University, and that also may explain the absence of any reference to America's role in Vietnam's “tragic modern history.” Although Harvard has had many brilliant mathematicians and scientists on its faculty, not everything about Harvard's past is

⁵Recollections of mathematics in a country under siege, *The Mathematical Intelligencer*, 12 (1990), no. 3, pp. 16-34.

⁶<http://ashinstitute.harvard.edu/asia/staff>

worthy of praise. The university played a major part in the American war. Several professors of political subjects, such as McGeorge Bundy and Samuel Huntington, were important policy-makers. Bundy and Huntington helped design and aggressively promoted the notorious “strategic hamlet” program in southern Vietnam. This forced relocation of large numbers of peasants, conducted by the U.S. military and the puppet regime, was widely condemned as a violation of international law.⁷ Napalm — which was produced by the Dow Chemical Company and used by the U.S. military against civilians in Vietnam — was first tested on the Harvard soccer field. So it is understandable that Harvard-affiliated people might prefer to pass over the American war in silence and instead blame only the French for contributing to Vietnam’s problems.

The destruction caused by the Americans was not only physical, but cultural as well, especially in the south, which had to endure 11 years of occupation by American troops. Their money financed prostitution, drug addiction, and corruption on a horrific scale. Just as American weapons brought down terror and death, similarly south of the 17th parallel American money ate away at the fabric of Vietnamese society and culture.

There were some less obvious cultural effects as well. Many years ago Hoàng Tụy remarked to me that during a war for survival there is a weakening of traditions of folk art and handicraft, for example. And if it weren’t for a truly heroic effort by the intellectual and political leadership of Vietnam — who during the bombing of Hanoi organized university studies and scientific research in the forests away from the city — academic life also would have diminished during the American war.

3 Training in Socialist Countries

Most leading Vietnamese mathematicians and scientists of Hoàng Tụy’s generation and my generation received their training in the socialist countries. My impression is that in general their education was very good. I know that Vietnamese students in Moscow had the reputation of being very hard-working and intelligent, and they usually worked under the guidance of top Soviet scientists.

The Valley report suggests that Vietnamese scientists and officials who were trained in socialist countries are less qualified than those who were trained in the West, and it blames them for holding back progress. In making these allegations, the authors seem to be trying to foment conflict between different groups of Vietnamese. Whatever one’s opinions about the relative abilities of Vietnamese who were trained in socialist or non-socialist countries — and my own opinion is that there are many highly qualified people in both groups — it serves no useful purpose to try to set one group of Vietnamese against another.

In view of the disparaging remarks in the Valley report about Vietnamese who received their advanced education in the socialist countries, it is natural to

⁷It is classified as a crime against humanity under Article 7(d) of the Statute of the International Criminal Court.

ask: What are the qualifications of the authors of the report that entitle them to make these negative judgments?

According to the Ash Institute website, before Mr. Valley became director of their Vietnam project, he was a member of the Massachusetts House of Representatives (that's analogous to being a minor provincial government official in Vietnam). In addition, he has an M.P.A., which means "Master of Public Administration." This degree is a common one in the U.S. for people intending to follow a career in local or state government bureaucracy. It is less significant than a Master's degree in a scientific subject, and of course it is far less significant than a Ph.D. or a Soviet Candidate's degree.

Valley's assistant Ben Wilkinson has even fewer qualifications. According to the Ash Institute website, his qualifications are that he took courses in Vietnamese history and language when he was an undergraduate student, and he "studied law at Harvard Law School" (that wording means that he failed to finish law school and does not have a law degree).

If someone holds a Master of Public Administration degree or once took some undergraduate courses in Vietnamese history and language, is he qualified to tell the Vietnamese government what it should do? Is he qualified to make negative judgments about scientists and officials who received advanced training in the socialist countries?

Would someone with the background of Mr. Valley or Mr. Wilkinson ever be hired in the United States as an expert consultant on improvement of higher education? Of course not. They would be viewed as completely unqualified, and no one would be interested in their opinions on that subject. Yet Harvard's Ash Institute and the Fulbright program of the U.S. State Department sent them to Vietnam as "experts" on higher education. This is an example of neocolonialism.

The tone of the Valley report is officious, self-important, and smugly condescending. The authors have a misplaced confidence in their own superior wisdom, and they express ridicule and contempt toward Vietnam's educational and scientific institutions and leadership. Even though McGeorge Bundy and Samuel Huntington are dead, the neocolonialist arrogance they exemplified is still alive and can be found at such Harvard-affiliated organizations as the Ash Institute.

4 Political Indoctrination

Large numbers of post-graduate students from around the world, including Vietnam, come to the United States to enter Ph.D. programs in the sciences in the major research universities. These programs should not be confused with another sort of training that is offered by organizations such as the Ash Institute. Programs of the latter type typically provide between several months and two years of training not in a scientific subject, but rather in "political science" or "public policy." (The word "science" in such terms as "political science" and "social science" does not, of course, mean that those are branches of sci-

ence.) The students or “fellows” (as they are sometimes called) learn about the dominant political and economic theories in the U.S., and they are taught that American approaches to solving problems are the best and should be exported to other countries.

The Valley report claims that in Vietnam “25 percent of undergraduate curricula [is] devoted to required coursework laden with political indoctrination.” However, when one looks at the policy programs at Valley’s own Ash Institute at Harvard, one can easily get the impression that they consist of 100% political indoctrination. (Perhaps it is unfair to say 100% — but it is certainly correct to say that the proportion of political and ideological indoctrination is far more than 25%.) The difference between the two forms of political indoctrination at Vietnamese universities and at the Ash Institute is that one is socialist and the other is anti-socialist. Even if the Valley report is correct in its claim that students at Vietnamese universities are wasting 25% of their time, that is still better than wasting almost 100% of one’s time.

5 ĐỔI MỚI

In 1985 the Vietnamese government introduced a series of economic reforms that led to many years of rapid economic growth, an increasing standard of living for most people, and a tremendous expansion of the private sector. In my book *Random Curves*⁸ I tried to give a balanced summary of the effects of *đổi mới*:

...[T]he effects of these changes were mixed. Most Vietnamese have become better off in material terms... On the other hand, there is much more economic inequality than there used to be, and a class of “have-nots” has emerged. In addition, in many respects private industry is subjected to even fewer taxes and restrictions in Vietnam than in the U.S. and other capitalist countries.

Once when discussing this with then-Vice President Nguyễn Thị Bình, I remarked that in this sense Vietnam is less socialist than the United States! In my book, I gave an illustration of the type of bad behavior by private companies in Vietnam that would not be allowed in most advanced capitalist countries:

For example, in 2003 we noticed a help wanted advertisement that the Caravelle Hotel had put in the English-language *Vietnam News*. The ad invited males to apply for engineering jobs and females to apply to be floor attendants. Such a blatantly sexist job ad would be illegal in the U.S. and most European countries.

Moreover, in most cases when American, Korean, or Japanese supervisors sexually harass Vietnamese women employees, the woman is powerless and no action is taken against the harasser.

⁸N. Koblitz, *Random Curves: Journeys of a Mathematician*, Springer-Verlag, 2007. Chapters 9 and 10 are devoted to Vietnam.

As in other countries, an open-door policy has a downside. People who have studied the complicated ways that the wealthy countries relate to Third World countries have often spoken of the problem of “dumping.” This means that multinational companies frequently sell inferior or defective products in the Third World — for example, pharmaceutical drugs that are expired or unapproved and so could not be sold in the U.S. The problem of dumping also extends to the cultural sphere. For instance, the American movies that are shown most often in Vietnam (and undercut Vietnam’s own film industry) are generally the worst movies coming out of Hollywood — good American movies are rarely imported.

Similarly, most of the U.S. colleges that have set up branches in Vietnam are of low quality. For example, an article I read in the American press⁹ mentioned that Houston Community College has a profitable branch in Hồ Chí Minh City. No one in the U.S. would consider a community college in Houston to have serious academic standing. Thus, this too can be viewed as a type of dumping. And some would say that sending unqualified people to Vietnam as so-called “experts” on higher education is also a form of dumping.

Another downside to the open-door policy is the sharp rise in consumerism among the younger generation — a phenomenon that has also been observed in China, India, and elsewhere. As I wrote in *Random Curves*,

A frequent lament among scientific researchers in Vietnam has been that few young people want to follow careers in the basic sciences. There has been a “graying” of scientific institutions.... The Vietnamese people have traditionally had tremendous respect for scholarship... But with the increasing influence of value systems imported from the capitalist countries, intellectual pursuits have a hard time competing with more lucrative occupations.

Even the youngsters who do well in the International Mathematical Olympiads often do not choose careers in mathematics or in any other creative area of science or technology.

Although it is difficult to combat the negative influences on youth, it is not impossible. There are many successful efforts in that direction in different parts of the world. In India, some leading mathematicians have taught in government-funded summer programs in mathematics for boys and girls who have done well in the Olympiads. The purpose of these programs is not just to teach mathematics, but to convey the beauty and excitement of research in the mathematical sciences. In the U.S., the Association for Women in Mathematics organizes “Kovalevskaja Days” at secondary schools in various parts of the country. At these events women researchers talk to girls about the many careers that use mathematics. Another initiative that has been quite successful in the U.S. is the government-funded “Research Experiences for Undergraduates” (REU) that are held in the summer at many universities, including mine. The

⁹M. A. Overland, American colleges raise the flag in Vietnam, *The Chronicle of Higher Education*, May 15, 2009 pp. A1, 22-24.

professors running the REU try to give undergraduate students a taste of what it's like to do mathematical research.

6 Higher Education in the U.S.

6.1 The Decline in Students' Preparation

Compared to most American colleges, my university attracts relatively good students. The University of Washington is the leading university in the north-west part of the country, and most of the students who study mathematics and science at U.W. come from the top 20% of their graduating class in secondary school. Because of "grade inflation"¹⁰ and "dumbing down,"¹¹ many of these students are accustomed to getting top marks for very little effort.

During the past 20 or 25 years the level of preparation of our entering students has been declining. I first became aware of this when a student in my first-year calculus course complained to the administration about me. She said that my class was too difficult, and as an example she pointed out that in order to answer one of my exam questions the students had to remember the formula for the area of a circle.

A few years ago a colleague of mine, Professor of Atmospheric Sciences Cliff Mass, was becoming increasingly frustrated with his students' inability to understand the mathematics that he was using in his introductory course. In order to identify the gaps in their mathematical preparation, he gave them a "proficiency test" in basic mathematics. Here are three typical questions from this exam, followed by the percent of students who were unable to answer correctly:

- (1) Divide 25×10^8 by 5×10^{-5} . (63% missed this question.)
- (2) What is the area of a circle of radius r ? (31% missed this.)
- (3) If $y = x/(1 - x)$, find x in terms of y . (86% missed this.)

By way of comparison it would be interesting to know: What percent of university students in Vietnam would be unable to answer the above questions?

6.2 High Costs and Bureaucracy

The cost of higher education in the U.S. has been growing faster than inflation and faster than family incomes. At many private universities the average cost of one year's tuition, fees, housing, and meals now exceeds USD50,000. (Costs are roughly half that at public universities.) There has been a lot of discussion of this problem in the U.S. press.

¹⁰This term refers to the tendency of American teachers every year to give higher marks than before for a given level of student work. Grade inflation is most extreme in the secondary schools, but it is also widespread at the undergraduate level in most universities, especially in the non-sciences.

¹¹This term refers to the practice in American schools and universities of gradually making a given course easier and easier, usually by omitting the more difficult examples and the more challenging exam problems.

One reason for the high costs is that universities provide many more services to students than ever before. For example, in comparison with earlier generations of students, today's undergraduates seem to need much more medical and psychological help. Many of them take a large number of prescription drugs — steroid anti-allergy compounds, birth-control pills, and especially psychotropic medications such as anti-depressant and anti-hyperactivity drugs — and binge drinking (a form of alcoholism) is also a major problem.

Another reason for the high costs is the cancerous growth of bureaucracy, which I also mentioned in my commentary on the report of the U.S. National Academies. Universities typically have as many administrative employees as faculty, and there are many buildings that house only administrative offices. These administrators spend much of their time going to pointless meetings and expensive unnecessary conferences, and they produce a tremendous number of wasteful publications that almost nobody reads.

Because of a combination of personal problems, financial pressures, and deficient preparation in math and other subjects, almost half of the students who enter 4-year college programs fail to finish in four, five, or even six years.¹² This has led many commentators in the U.S. to say that higher education in America is very inefficient as well as overpriced.

6.3 How the U.S. Still Manages to Produce Good Science

When scientists and mathematicians visit the United States and teach here for a year, they are invariably shocked by the low level of our students. How is it possible, they wonder, for a country with such a weak educational system to continually produce world-class science? The U.S. is at the cutting edge of most branches of high technology, it has some of the world's best post-graduate programs in scientific subjects, and it receives a large proportion of the Nobel Prizes. At first this seems like a paradox.

There are two main reasons why the U.S. still produces some of the world's best scientists:

- The U.S. is a large and wealthy country with a completely decentralized system of education. The variation in quality is extreme. There are a small number of very good public and private schools. Suppose that 98% of Americans were getting an inadequate scientific education, but the remaining 2% were getting a world-class education. The 2% would be sufficient to supply the country with hundreds of thousands of engineers and scientists.

- The U.S. benefits greatly from immigration. The “brain drain” from other countries provides a steady supply of scientists and engineers. In many branches of science more than half of the top-quality Ph.D. theses are written by post-graduate students who received their elementary and university education in another country.

For other countries there are lessons to be learned from both the successes and the failures of science education in the U.S. However, no knowledgeable

¹²According to *The Chronicle of Higher Education* (August 24, 2009), of all the students who entered 4-year colleges in 2001, just 56.1% had graduated by 2007.

person would claim that overall the American system of secondary and tertiary education is a good model for other countries to follow.

7 The Notion of a New University Set Up by Americans

The Valley report includes an appendix in which Professor Hoàng Tụy supports the idea of starting a new government-funded university based on American models and designed by Americans.

I have tremendous respect and admiration for Hoàng Tụy (and wrote about this in *Random Curves*), but I do not agree with him about everything. For example, when I interviewed him 20 years ago for *The Mathematical Intelligencer*, he and some other prominent mathematicians were enthusiastic about the new Thăng Long university, and thought that such private universities would serve as a model for higher education in Vietnam. I never believed that this would happen. I knew about private universities in other Third World countries, and I did not believe that “privatization” would provide a solution to Vietnam’s (or other countries’) difficulties in higher education. By now it is clear that I was correct about this. The private “universities,” including Thăng Long, are not true universities, but rather trade schools that offer only a limited form of post-secondary education.

Similarly, I believe that Hoàng Tụy and others are mistaken in thinking that a university established from scratch according to the design of a U.S. consortium of universities would serve as a successful model for higher education in Vietnam. Is there any country in the world where this has happened? There are some countries, mainly in the Mideast, that have universities established by Americans, but as far as I know they educate a wealthy elite and do not have a broad impact on improving education in those countries.

A crucial feature of the proposal for a new U.S.-style university in Vietnam is that it would not be financed with American money. Rather, it would be a major expense for the Vietnamese government. As the Valley report says: “Bluntly put, Vietnam must be willing to pay.” And every dollar that Vietnam pays to an American consortium will mean less money that the government can spend to improve the existing universities.

It is perfectly fine to look to other countries for ideas for reform. Some things in the U.S. are done well — and I have lectured on those things during my visits to Vietnam. For example, teaching and research are better integrated with one another in the U.S. than in most other countries. (I discussed this in 1983 in the Confidential Report I wrote for Vietnamese leaders of education and science.) But Vietnam should not worship the U.S. (or any other country). It is also important to understand the many failings in the U.S. system. And certain other countries — such as India, China, and Japan — in many areas of education are better sources of ideas and inspiration for improvement.

8 The Job Market

The Valley report states that “as many as 50 percent of university graduates are unable to find jobs in their area of specialization,” and cites this statistic as evidence of a deficient university curriculum in Vietnam. This is not, however, the correct conclusion to draw from that statistic. In Vietnam, as in most Third World countries, the problem is that the private sector is not at a level where it can absorb a large number of talented scientists and engineers (and the state sector is limited by financial constraints).

For many years I have been making regular visits to Peru, a country which also has been unable to place most of its university graduates in jobs in their area of specialization. A tourist in Peru is likely to encounter some extremely well-educated guides and taxi drivers! This is pleasant for the tourist, but it is a tragedy for the country. The reason why so many Peruvians with advanced degrees are working in jobs that do not even require a college education is not that Peru’s universities did a poor job of educating them. Rather, it is that the economy is not able to absorb them. Peru, like Vietnam, does not have a very innovative private sector. And in Peru, as in many other countries, the government is under pressure to reduce the state sector, which is the main employer in the sciences (reductions in the state sector are usually required by the World Bank and the International Monetary Fund).

Even when a country has an innovative private sector with many jobs for creative scientists and engineers, special efforts are needed in order for university graduates to make a smooth transition to the workforce. A university that has been especially successful in doing this is the University of Waterloo (often called the “MIT of Canada”), which pioneered the concept of internships almost a half-century ago. Waterloo students take five years rather than four to graduate, because they spend a large part of that time in temporary jobs, usually at research and development (R & D) facilities of high-tech companies. Of course, such an internship program is possible only because the Toronto area, where Waterloo is located, boasts a large number of such companies.

8.1 The Nature of the Private Sector

The Valley report uses the term “innovation index” to refer to its table of patents awarded in 2006, and it uses the absence of patents awarded to Vietnam as evidence of the “poor quality” of higher education. This is very misleading.

The purpose of patents is to protect innovation in the private sector, that is, to enable companies to make profits from the improvements developed by their researchers. Normally, research in basic and applied science at universities and government institutes does not result in patents, no matter how innovative it is.¹³ Thus, the absence of patents in Vietnam is a consequence not of any

¹³In the U.S. in recent years university administrations have been urging professors of applied subjects to get patents. If those patents earn money, then the university receives a substantial percent of the profits. However, it is only recently that a significant number of college professors have patents, and even now the majority of scientists in the university sector

failings in the university system, but rather of the low level of the private sector.

As pointed out in the Valley report, South Koreans hold many patents. The reason is that Korean industry is at a sophisticated level — with major world competitors in the electronics and automotive industries — and companies based in that country have extensive R & D operations.

In contrast, Vietnam, like the majority of Third World countries, has no important companies within the country that are leaders in technical innovation. And the Vietnam branches of multinational corporations are engaged in manufacturing, sales, and related activities — not in the creative development of new technology.

8.2 Intel

In a section titled “Dimensions of the Crisis,” the Valley report claims that Intel’s experiences hiring staff in Hồ Chí Minh City demonstrate “the poor quality of undergraduate education.” The report mentions the results of a standardized assessment test given to 2000 students in Hồ Chí Minh City and quotes an unnamed source at Intel as follows:

Intel confirms that this is the worst result they have encountered in any country they invest in. Vietnamese and international investors cite the lack of skilled workers and managers as a major barrier to expansion.

Let’s examine whether or not the Valley report is accurately describing Intel’s experiences and drawing appropriate conclusions.

8.2.1 Intel’s Operations in Vietnam

On its website Intel has announced that its planned expanded facilities in Vietnam will work in four areas: manufacturing, testing, sales, and marketing. A chart in Intel’s 2008 Corporate Responsibility Report shows that as of December 31, 2008 there were twelve Third World countries, including Vietnam, in which Intel had facilities with more than 50 employees. According to the chart, Intel has R & D in only four of them (China, India, Malaysia, and Philippines).

Intel’s skilled and semi-skilled employees in Vietnam will work on assembly lines, carry out product-testing protocols, and try to increase sales of Intel products in the country. In addition, Intel needs people with secretarial and managerial skills (sometimes called “soft skills”) to handle various administrative tasks and to supervise Vietnamese employees. For such purposes a couple of years at one of the many private trade schools that have sprung up in Hồ Chí Minh City should be sufficient; nothing in the job descriptions requires a 4-year university degree. In particular, the Vietnam branch of the company has no need of creative engineers or scientists, because it has no R & D.

have never had a patent. For example, despite having worked in cryptography for 25 years, I do not hold any patents.

During my early visits to Vietnam in 1978 and the 1980's I used to marvel at the ingenuity of Vietnamese drivers and mechanics who were able to repair and maintain the dilapidated American cars that dated to the U.S. occupation. Most likely the skill and cleverness — and at times innovation — that were shown in the auto mechanics and bicycle repair shops in those days were greater than anything that Intel expects from its Vietnamese employees. The latter workers are expected only to follow detailed procedures that have already been established by their American employers. They are not expected to be creative.¹⁴ It is therefore illogical to draw any conclusions about the quality of Vietnam's 4-year universities from Intel's success or failure at meeting its hiring goals.

8.2.2 Intel's Response to the Valley Report

With the help of a colleague of mine who's a senior researcher in cryptography at Intel, I was able to reach people at Intel who are knowledgeable about the company's experiences in Vietnam. I asked them to read the statements about Intel in the Valley report and respond. This is Intel's statement:¹⁵

Intel's vision is to partner with the Vietnamese government, universities, and other industry to develop a world-class high-technology workforce. This is not something we can or wish to do alone nor can it happen immediately. It takes great effort and investment by all parties. Since we have been active in Vietnam, we have seen positive momentum build.

Intel needs to ramp the world's largest semiconductor assembly-test factory in Vietnam. In the near-term we've seen success in recruiting engineering students. Since we began assessing student performance, the students have shown a better grasp of the English language, and their soft skills have shown improvement. As Intel has made its requirements known, the students and universities have responded constructively. We have a way to go, but the progress made so far is significant.

As we continue on this path with our partners, and as the universities and government and industry focus on the practical application of technical skills, we expect the Vietnam high-tech workforce will be competitive on a global scale.

¹⁴In its advertising aimed at potential employees, Intel Vietnam is sometimes misleading about the nature of the work. On the Facebook page "Career at Intel Vietnam" we read: "At Intel, you'll have unique opportunities to make the most of your mind by working, growing and innovating with the world's best and brightest employees in an international and innovative working environment." Note that a form of the word "innovative" is used twice in the same sentence. However, from information on Intel's own website about its planned operations in Vietnam it is clear that the above sentence is nonsense.

¹⁵October 2, 2009 email from Gail Dundas of the Intel Corporation Global Communications Group.

Intel's statement gives no support for the notion that Vietnamese universities are in crisis or need a radical change in governance. The Valley report has clearly distorted and misrepresented the experiences of Intel in order to further the authors' political agenda.

9 Study Abroad

The Valley report claims that because of poor undergraduate education "Vietnamese often cannot compete [with] their Indian and Chinese peers... for slots in elite graduate programs in the U.S. and Europe." But it gives no evidence to support the claim that Vietnamese students are not competitive.¹⁶

It is possible that at some universities Chinese and Indian applicants have been more successful than applicants from other Third World countries, including Vietnam. Both China and India have had more years of experience in sending their graduates abroad for advanced study, and there tend to be much higher numbers of applicants from those countries. (Recall that China and India together comprise 37% of the world's population; Vietnam comprises 1.28%.)

In Vietnam's case there is a special circumstance that might in part explain a low number of admissions compared to certain other countries that, like Vietnam, have a strong tradition of high standards in math education. Many Ph.D. programs in mathematics require very high TOEFL scores. The reason is that at U.S. universities the main source of funding for post-graduate study is to work as teaching assistants in introductory courses — a job that requires excellent knowledge of spoken English.

Typically, applicants from Hanoi have a high mathematical level but not such good results on TOEFL, whereas the reverse is true of applicants from the south of Vietnam. There are certainly many exceptions to this statement, but on the whole it is hard to find Vietnamese applicants who come out at the top in both mathematics and English.

As far as I know Vietnam is the only country in the world where the places where scientific training is the best and the places where English language instruction is the best are almost totally different. In China, for example, the places would be the same. In the case of India the issue does not arise, because English is the language of the privileged classes, and all university instruction is in English.

¹⁶I belong to my department's Graduate Admissions Committee, which has the responsibility of reading through and ranking hundreds of applications for the University of Washington's Ph.D. program in mathematics. Over the past three years we have had six applicants from Vietnam, of whom two were accepted. This acceptance rate is similar to that for other countries; for example, roughly one-third of the 90 Chinese applicants during the same three-year period were accepted.

10 Recommendations

If I were to give recommendations to the Vietnamese government for improvement of higher education, they would be entirely different from the recommendations coming from the Ash Institute or the U.S. National Academies. They would be as follows:

1. Raise salaries of teachers, professors, and scientific researchers to bring them closer to private sector salaries.
2. Give stipends to Master-level students in math and science.
3. Give funds for summer programs for talented students (for example, those who do well on the Math Olympiads).
4. Give funds to set up special programs for girls, especially at the secondary school and undergraduate levels, so that more women choose careers in science and technology. (The Kovalevskaja Fund supports the Prizes for senior women scientists, but it does not have any programs to support women at earlier stages.)
5. Give funds to set up special programs for ethnic minorities so that they are able to enter careers in science and technology. Both girls and ethnic minorities should be encouraged to participate more in activities such as the Math Olympiads. (In 2007 the Kovalevskaja Fund paid travel expenses for a boy from a minority mountain ethnicity in Peru so that he could come to the IMO in Hanoi, where he won a Silver Medal.)
6. Try to influence multinational high-tech companies to set up research and development divisions (not just sales, marketing, testing, and production) in Vietnam, so that there are high-level jobs in the private sector that give opportunities for innovation to Vietnam's young scientists. At present almost all scientific research is supported only by the state sector, not by the private sector. If Intel can have R & D facilities in Malaysia and Philippines, then why not in Vietnam?
7. Institute a new tax for private-sector companies — including multinational companies — that is to be used entirely for government support of education and scientific research.¹⁷
8. Do not waste Vietnamese government money by spending funds on American “experts” or by paying American universities to set up a university in Vietnam.

The purpose of suggestions 7 and 8 is for the Vietnamese government to get the money needed for suggestions 1, 2, 3, 4, 5. Unlike the Valley report, which claims that increased funding of higher education is not needed in Vietnam, I believe that a crucial element in improvement of higher education most definitely IS financial.

¹⁷An alternative to a formal tax would be a system of “voluntary donations” similar to the procedure that the Hanoi Math Institute used to raise funds from members who returned from Western countries. That is, for each company the government would calculate an appropriate amount each year, and the company would then be asked to make a voluntary donation to advance science and education. The amount requested and the amount donated would be published, and companies that donate the full amount would find much more good will and cooperation on both informal and official levels than would companies that do not.

11 Conclusion

Some Vietnamese commentators describe the current situation in cataclysmic terms and declare that the problems of higher education are so deeply rooted that only an intervention from outside — by foreigners — can lead to reform. Some even believe that the problems can only be solved if the whole economic and political system is changed — presumably to something on a Western capitalist model.

In English there is a saying: “Be careful what you wish for.” The reason (usually unstated) is “because you might get it.” When I was in Moscow in the 1970’s and 1980’s, I found that many of the leading Soviet intellectuals despised the socialist system they were under and wanted to see it replaced by a Western style of economic and political organization. They tended to especially admire the United States, and they were ignorant of the difficulties and failings of the American system.

They got what they wished for — Soviet socialism collapsed and was replaced by a crude form of capitalism. But the consequences for scientific research and education were disastrous. Russia is no longer a place where science, mathematics and higher education are world-class. Recently *Math Reviews* asked me to review an article that had been published in Russian about cryptography (this happens rarely, since little is published in Russian these days). Its bibliography was 15 years old — very peculiar in a fast-moving field of applied mathematics — and the authors’ “new” idea had already been developed and written about in the late 1990’s. The authors’ level was what one would expect to come from a very backward Third World country. A country that once was the scientific rival of the United States is now a backwater.

Many years ago Hoàng Tụy explained to me that, unlike some other countries (he was thinking mainly of China), since its independence in 1945 Vietnam has been able to avoid the abrupt zigs and zags in policy that have caused much hardship in other parts of the world. The Vietnamese, he observed, usually prefer to make changes in moderation and resolve disagreements without one side repressing and humiliating the other. If this view of how reforms are carried out in Vietnam is still correct, then it should be possible to improve higher education in Vietnam without repudiating the socialist system, without insulting people who were trained in the Soviet Union and Eastern Europe, and without entrusting Vietnam’s future to so-called American “experts.”