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## Minutes of the Regular Meeting of the Academic Council

Thursday February 23, 2012

**S**usan Lozier (Chair, Academic Council/Nicholas School of the Environment): Welcome to the February Council meeting – I hope everyone is enjoying this lovely weather and I hope that no one will raise their hand and ask if we can please hold the meeting outside on the quad and throw the Frisbee around, etc. (laughter)

Before we turn to our agenda items today, I have a few announcements:

First, the Academic All ACC Football team was announced last week and Duke led the way with a total of 18 students on this roster. The nearest competitors were Clemson and Wake Forest with 5 each (applause). These football players join 407 other Duke student-athletes on the 2011 ACC Academic Honor Roll, a number that outranks all other schools in our conference. In fact, in 23 out of the past 24 years, Duke has led the ACC in Academic Honor Roll selections.

As faculty we often feel more comfortable as the watchdogs of the athletic programs rather than the promoters; and it is indeed our responsibility to ensure that our academic standards are met by all students. But we should also allow ourselves to offer congratulations when congratulations are due. During this past year, when the challenges of maintaining Division I athletic programs for universities across the nation have become increasingly apparent, we can pause for a moment and appreciate the fact that our athletes are truly student athletes and that their academic success is our collective success.

And so, on behalf of this Council, I offer congratulations to these 18 young men, and indeed to all 425 student athletes on the 2011 ACC Academic Honor Roll. I also commend the efforts of all those supporting those students, including faculty, perhaps some in this room, the academic support staff in the Athletic Department,

the coaches and the Athletic Director Kevin White. Well done all around.

Speaking of things well done, I have an update on the Academic Council election. Six of our divisions have elected new members; the remaining six divisions will complete their selections later this week, and in April we will seat our new Council members. 735 faculty members participated in the nomination step of this process, a 37% increase over the number of faculty who did so last year. We still have work to do on the number of faculty opting-in to stand for election, but that is a story for another meeting down the road. For now, I look forward to welcoming the new Council members at the April meeting.

My final announcement this afternoon is that as with all Council meetings, this meeting is open not only to all Duke faculty but also open to the public. As such, there are observers and media present today. Welcome. I will also remind you at this time that our meeting is recorded. So, if you make a comment or ask a question, please identify yourself.

Turning to our first agenda item, I would like to call for the approval of our January meeting minutes. [Approved by voice vote with no dissent.]

### *By-Law Changes*

If you were here last month, you know that ECAC introduced two suggested changes to our by-laws. These suggested changes were posted again with your agenda and today we will move to our vote of these suggested by-law changes. To quickly summarize for those not here in January or perhaps did not have time to read the minutes: At our December meeting, ECAC received a request to conduct the vote for the approval of the Duke-Kunshan-Fuqua MMS degree by written ballot. Since our by-laws are silent on voting procedures, ECAC extemporized and allowed for the written ballot on its own

authority. We now propose to amend our by-laws to make the voting procedure more clear.

ECAC's second proposed by-law change regards the procedure by which the Faculty Secretary is elected to this Council. Currently, the Faculty Secretary is nominated by the Executive Committee and annually elected by the Council at the April meeting. The Faculty Secretary then serves as an ex officio member of the Executive Committee of the Academic Council, without vote.

ECAC would like to restructure the Faculty Secretary position, such that, like the Vice Chair of ECAC, the Faculty Secretary would be selected from among the elected members to ECAC.

This change allows us to increase the number of representatives on ECAC by one. The number of schools and faculty has grown through the years. Currently there are a total of 12 divisions and schools represented on the Council. Nevertheless, the number of elected ECAC members has stayed steady at 7, with the 7th being the chair. With this change, we can increase the representation around the table without changing the total number of people around the table. Essentially, we are converting an ex officio position to a full ECAC position. Are there any questions or comments before we move to the votes?

Since ECAC is introducing these changes, I only need to call for a second – may I have a second on the bylaw change regarding voting procedures?

[Approved by voice vote with no dissent.]

And may I have a second for the changes to the selection of the Faculty Secretary?

[Approved by voice vote with no dissent.]

### *DKU Initiative: Prof. William Kirby*

The next few agenda items are devoted to the University's DKU initiative.

In order to give the Council an historical context and a broader view of higher educational opportunities in China, ECAC has invited Professor William Kirby to address the Council this afternoon. Professor Kirby is the T. M. Chang Professor of China Studies at Harvard University and the Spangler Family Professor of Business Administration at the Harvard Business School. He serves as Director of Harvard's Fairbank Center for Chinese Studies and as Chairman of the Harvard China Fund. Professor Kirby has also been engaged by the Duke administration to serve as senior advisor for Duke in China.

A historian of modern China, Professor Kirby's work examines China's business, economic, and political development in an international context. His current research involves a comparative study of higher education in China, Europe, and the United States.

While we are interested in Professor Kirby's overall perspective on higher education in China, ECAC has asked him to specifically address four questions in his remarks:

1. What does China have to gain from importing our educational programs?
2. What do we have to gain from this export?
3. What are the risks associated with an initiative such as DKU, particularly those that pertain to academic freedom?
4. How do you take a collection of programs at DKU and turn them into a university?

I would like to now welcome Professor Kirby to our Council Meeting.

William Kirby (T. M. Chang Professor of China Studies, Harvard, senior advisor for Duke in China): Susan, thank you very much. I have to apologize. I lost my voice in recent weeks – cheering for Jeremy Lin (laughter) – so I have a little bit of laryngitis but with the aid of



a microphone I think we will be just fine.

It's a pleasure to be here and it's a pleasure to be asked by Dick and Peter to help Duke in what I think is the most extraordinary international enterprise going on in China and Kunshan University, as I think it will be an important venture. But I thought, I'm a historian and I should say something, a little bit, about where we are now in a historical context to think of the present in the context of the past.

The history of Chinese higher education is not that old. This one (referring to slide) – my good friend the

Empress Dowager, who ruled China from about 1860 to 1908 when she died, a little more than a century ago. When I was Dean of the Faculty of Arts and Sciences at Harvard I had a portrait of her outside of my office for protection as it were (laughter) and times being what they were I actually needed it.

In a little bit more than a century, China has moved from being under the great Qing Empire to the great global power that it is today. A return to a force in international relations and international power in every dimension, including education, that it was in 1870 but that it was not in 1900. It was an educational system presided over ... and really an educational system that had probably the highest ideal of any educational system of which I know. The old examination system which ended in 1905 for the old imperial exams in which good people read good books, and indeed memorized them, in order to do good work in society. An education fundamentally based in the humanities and almost nothing else.

But that system was discarded as the Empire was discarded and China became, or sought to become, a modern country, and a modern country having modern universities modeled on international standards.

So why is China interested in American universities? The very first gate here (referring to slide) of Qinghua University was founded by the American Boxer Funds to build the first liberal arts college in China in 1911, exactly one hundred years ago. The physical foundations...but the intellectual foundations of Chinese universities today have an indelibly international imprint on them. We are all part of the same game. It is very difficult to say what is a *Chinese* university – there are, of course, distinctive features; a Chinese university is distinct from an American university. We have many differences. But we have enormously great commonalities as well and if one looks at the beginning of this from the time of Sun Yat-sen, the founder of the Republic, to, for example...Southeast University, Nanjing...used to be part of Nanjing University, but before that it was a technical school founded in the 1880s before Duke I think. Is that possible? I think it is actually possible, depends on what you count as Duke!

In this gymnasium now, where people are playing badminton, this is where John Dewey and Bertrand Russell gave a series of extraordinary lectures in 1921 when China had developed and was developing one of the most dynamic systems of higher education in the world. Great public universities such as Peking University, National Central University, Shanghai Jiao Tong University, Wuhan University and great private universities and Sino-foreign universities like Yanjing University, like Saint John's University. One of the most dynamic systems of higher education in the world before the Chinese Communist Revolution.

This is National Central University, modeled, not on an American model, but on the model of what was the greatest university in the world until the 1930s, the University of Berlin. The model, the progenitor of every major research university in the world, founded in 1810 and you know that this is modeled, that this was built under the Chiang Kai-shek government, that is modeled after the University of Berlin because it has a little Brandenburg Gate welcoming you into it still today. So internationalization and borrowing the best, sometimes not the best, but borrowing from all over the world, this is how universities are built.

My university, Harvard, of course, is modeled on British models but it became a decent university only by doing what other American universities did: plagiarizing the great German research universities and their models of graduate education in the 19th century and the first part of the 20th century. This is a story, then, when one says, "Why does China want American universities?" It is that we are, as it were, in the same world, and China has a history of borrowing American, European, Soviet, and other models in seeking in its time and day forms of world class enterprises, but it has started doing this not much later than most American Universities with which we are well familiar. And this is true today, not just in research and in teaching, in conceptions of general education, and not just on the mainland, but also in Taiwan and Hong Kong, all part of an intersecting world.

You can see today that after the destruction of Chinese universities in the cultural revolution and their reopening in 1977 and this extraordinary growth today. Chongqing University, its new university, bigger than all of Harvard University, and in many ways I have to say prettier, East China Normal University, this is its old campus a few years ago. This is the campus today. Extraordinary growth. This is one of the new campuses of Zhejiang University and Hangzhou may be the number three or four university in China, maybe not depending on what you think, but just extraordinary.

I feel always so humbled when I go to China. Harvard has had a new campus across the Charles River in Boston for fifteen years and on that new campus we have built nothing. But this stuff is not just in planning, there it is. Extraordinary development.

So the question is: how do you build a new university in such a short period of time? What China has done in the last few years is build too much too quickly in fact and it is much easier to build the hardware than it is the software and I think this is one of the reasons why it is very wise that Duke-Kunshan University is being built in stages and not overnight. No university starts and becomes great overnight. It takes care and planning and stage-by-stage development and the more planning that goes into that, the better it is, the more faculty involvement, of course, the better.

The stunning growth of Chinese universities today in a physical sense is also, you can see from enrollment, and I am just going to zip through these, and you can look at them later on. Rapid expanse and not only of undergraduates. A few years ago, in 1990, there were 2 million undergraduate students. In 2000, there were 6 million graduate and undergraduate. In 2007, I am having lunch with the Minister of Education and I asked the minister, "There are 6 million students in 2000, how many are there today in 2007?" And he says, "23 million." So, think that, it is a long and gracious lunch as Chinese banquets are, by dessert, the number is 26 million (laughter), and today the number is 31 million. It is an extraordinary development. And even the Minister really didn't know how many students there are. There is an enormous market because it is a highly educated population today. Rapid expansion of graduate education: soon they will have confirmed more doctorate degrees than the Americans, which I tell my Chinese friends in government is a sure recipe for political instability (laughter), but they don't seem to care.

Infrastructure, extraordinary developments compared to anywhere in the world. Higher enrollment goals, percentage of working age population with higher education: 20% by 2020, it's very interesting, and this came from your office here. Only 28% of the American population in 2010 reported having a higher education degree. Now it may be that some of us forgot, but nevertheless, it is an extraordinarily low percentage for a major industrialized country. The growth of private universities as well as public universities is now fast outpacing in terms of the number of public universities. I did a Harvard Business School case on this one, Xi'an International University, this man, I think of this, maybe every University president would...we can say this without President Brodhead being here, it's a really tough job. At Harvard, we have had four presidents in the past twelve years. Mr. Huang Tong doesn't have to worry about his tenure because he owns 55% of Xi'an University (laughter). That's another model (laughter) of what a university can be.

There are problems. There are big problems. Great successes, but there are enormous problems too. A lot of this money is coming very fast. There is a lot of debt in different parts. Big problems, but also big opportunities. Fantastic over-concentration of universities in the Beijing area and in the Shanghai area but it means that large parts of China, so outside of Shanghai, Kunshan, between Shanghai and Suzhou, there is enormous opportunity for expansion of higher education, particularly as infrastructure makes the country much easier to get around. And there are, and this is where DKU comes in, extraordinary alternative models of Chinese foreign universities, there is not one strategy, there is much experimentation.

We did a conference at our Harvard Shanghai Center last October asking people from twenty different uni-

versities to come and compare behind closed doors, "What are you doing in China? How are you doing it? How are you paying for it? What's going on?" and twenty different universities, twenty different models in this case, and quite frankly I will say that Duke has by far comparatively the best planning and the greatest ambition and are doing it with significant care. Without question, Duke-Kunshan University, if it is successful, as I believe it will be, will be the leading American presence in China.

But if you look at this, Stanford University is building a courtyard house in the middle of Peking University, mostly for study abroad. It's an interesting model; it's not one that I would personally subscribe to, but nevertheless, there you are with it. And it's interesting that the president of Peking University went to Stanford; not very long ago actually, the party secretary went to Stanford, and he said, "Now that you're building a little campus on our campus, where can I build something on your campus?" (laughter) They hadn't actually thought of that, but our Peking University friends were in front of it.

The China-Europe Business School, a joint venture between the European Union and Shanghai designed by I. M. Pei, a lovely place. Columbia has a center in Beijing; Chicago also is centered in Beijing; Harvard has a center in Shanghai, sadly not that entire building (laughter), but only one little floor (laughter) of it. I welcome you to come, but it's for executive education for the Harvard Business School, typical MBA classroom; actually it's the best classroom we have at all of Harvard, it's just far away (laughter) from the rest, but it's actually the best conference facility we have at Harvard, and like all universities, its quality really depends on the food (laughter). Yale and NUS – the National University of Singapore – in many ways, I believe, a prototype of what Yale may someday wish to do. In China, New York University in Shanghai – this vertical university – because it's a high rise in downtown Shanghai, but not anywhere as well conceived in my view.

But I should backtrack and say that I am also studying the development of higher education in Europe, North American, and in China, in the first part the 21st century. So, from an academic point of view, I take this all very seriously...then what is happening at DKU; these are pictures that you will have seen, and seen often enough – really a stunning set of facilities.

"Where will this lead and what does this mean?" For China, of course, many Chinese hope that it will lead Chinese universities, often in partnership with American universities, to climb these hideous tables of rankings that paralyze deans and presidents the world over and some of these Chinese universities are doing extremely well. I think it's important to know that what is happening in the global world of higher education really does affect how these rankings in future will be tabled as it were.

A hundred years ago, back to the Empress Dowager's time, if we had rankings like we have today, Times of London or QS, or Shanghai Jiaotong. If we had these, my university would not have been in the top 10. It would have been lucky to be in the top 20. My guess is that a hundred years ago, 8 of the top 10 universities in the world would have been German universities. Today, by any ranking, not one of the top 50 universities in the world is a German university. Now the Germans disagree on occasion (laughter), there's good historical reasons for this – but, nothing stays the same. And just because one is on top now – I've always been pleased at how Harvard somehow grandfathered in – sometimes deservedly so, into very high rankings. But, it is not going to stay the same in the highly competitive and international world of higher education. No place stays good by standing still. This in part is what President Hu Jintao said at the hundredth anniversary of Tsinghua University. Remarking back to the founding, liberal values – he's not a very liberal man – but, marking back to the liberal values that define Tsinghua University when it started as Tsinghua College.

“Now, what does Duke have to gain in this?” My sense is Duke, like Harvard, like all American universities really, has that certain trajectory – very successful ones – moving from a regional scale to a national scale, now to a global scale. One certainly has in its global activities, enhanced opportunities for its extraordinary students and faculty. It has an international footprint that is potentially definable, not diffuse, as it is in some many universities. It offers greater access to a Duke education, to some of the best students and scholars on the planet; it's those in China or in East Asia. And above all it is a chance to compete globally in areas that can be transformative, should be transformative: health, environment, business, public policy, and I think very critically in time, the liberal arts.

Every major Chinese university is seeking to learn from American universities at the moment in very different ways, but they are seeking above all, the kind of secret of what we somehow are able to do – they believe we train leaders because we say we train leaders. None of our universities ever puts out a brochure saying, “We train followers” (laughter). So we train leaders, but we do it in part, we claim, through a liberal arts education by broadening their mind.

Every Chinese university now is experimenting with general education, liberal education programs. When I was dean at Harvard, I had a president of a Chinese university come to me and say, “Can we have Harvard's core curriculum?” And I offered to sell it to him (laughter) because we were getting rid of it (laughter). And then when he heard that we were doing a new one, he didn't want the old one; he wanted only the new one. And I found that every one of our curricular reports – endless numbers of curricular reports – they were much more carefully read in Beijing than they were by my col-

leagues in Boston (laughter). Which is not a high bar, but nevertheless....

So, there are risks of course. What are the risks? The biggest risk is doing things in China... This is a big for business for especially our MBA students who I am teaching tomorrow. Don't think you need to, or should, work abroad on different principles than you work at home. You will never succeed in doing that. China is different. There are many things about China that you need to know, but if you are a business person or if you are an academic, you have to adhere to the core principles in which you not only believe and act, but also made you successful in the past. And if you don't do that, you are sunk.

This is in every realm; it's in business in the area of fundraising, for example, which can be a treacherous operation; in admissions – all of these areas are very, very critical – and in terms of academic freedom. Now, a question, a very reasonable question, “Is it possible to have a truly liberal education in what today is still a politically illiberal society?” Well, I think the 19th century German answer is, “maybe, up to a point, yes, mostly in fact.” But not because of Wilhelmine or Bismarckian or earlier German states necessarily were liberal; it's because universities had a level of insulation from the state – internal governance.

And what I see in China today is not perfect, but it's extraordinarily expanded. I can give lectures, but also Chinese colleagues can give lectures within the walls of universities, exactly the same as we would do here. And I've done this, actually on the history of the People's Republic or the Great Leap Famine, lectures on the criminality of certain now-deceased Chinese leaders and so on. And people understand that it's not perfect, but the internal governance – and so the governance, paying attention to the governance issues of DKU are extremely important as one exports some part of a Duke experience in this.

To me the greater risk in this area is not to take risks. The greater risk is by far, in my view, not to be engaged in China, which is the fastest-growing in quality, as well as quantity, system of higher education in the world. And the greater risk is not taking risk in programs. If one or another program set out at DKU, in my view, doesn't succeed, and fails, that's probably a good thing because if at least one or two don't succeed, then you haven't been ambitious or inventive or imaginative enough.

The nice thing, when one thinks about is really quite an extraordinary opportunity. How often does one get to create a new university? None of us. I don't think anyone in this room was here when Duke was founded, and I wasn't around when Harvard was founded in the late Ming dynasty (laughter), and yet, you have in some sense here, as the Chinese would say, not quite of course,

but you have a blank sheet of paper on which quite lovely characters can be written and it's up to you, I assume, and your colleagues. It's something that one should enter into, and I see this in my meetings with faculty, not with anxiety, but one should always do due diligence, but with ambition. I just wanted to say in my time over the last nine months in advising Duke, advising Peter and advising Dick, and talking with many faculty members here, my hat is off to the Duke faculty for the sense of imagination and ambition that I've seen. So thank you very much. I'll stop right there. (applause)

## Questions

Berndt Mueller (Physics): As historian, I would like to ask you the following question. China is not the first rising power in the world in history. It has happened



before, many times, several times. Has there been any other case in which a university in one of the leading countries has gone and co-founded a university in such a rising power? Do we have cases from which we can learn that are outside of China in history?

Kirby: Well, I don't think there's any exact parallel in this; you can say that Cambridge University, its first study abroad program was Harvard, but that's not really accurate historically. You have American universities as offshoots of British colleges for certain types of purposes. That's a very good question. I don't know of this, but I think it's one of the things you need to think about. China's a rising power, yes. China's been rising, not just for the last 30 years, but the last 100 years. The question I always ask my undergraduates is: Is the 21st century going to be 'the Chinese century'? Just to get their attention at the beginning and end of the term. And I think a coherent answer to this is 'no,' in the sense that it will be a century, as I certainly hope not just for China, but for all of us in a world of shared aspirations and many common challenges.

But if it is the Chinese century, it won't be the first. There have been many Chinese centuries before, and so you have it as it were a series of international institutions layered on a civilization that has valued education in one

form or another, in a longer and more continuous way than any other. So it's a little bit different.

What is very interesting, by the way, is that Chinese leaders from the last 100 years to the present, have seen the future of their education on international models and not on traditional Chinese. People are now re-reading and refining, happily, I think, Confucius; statues of Mao are going down and being replaced by Confucius on some university campuses. That I think is a wonderfully positive development. But it is a rising power – and it's a developing country – but it's not just that. There's a distinctive feature at least, from my point of view, in the Chinese scene, in this regard.

Prasad Kasibhatla (NSOE): I was struck by a comment about sticking to core values. One of Duke's core values is getting us to engage in society, to get our students in various ways to engage in society. I ask my students, for example, to read blogs and stuff that are out. And I wonder about that aspect and the tension of that with what you said about academic freedom essentially being restricted to within the walls of the university. I wonder if that's a dichotomy, and how you would negotiate something like that?

Kirby: Well many of the most outrageous things said in China are not said within the walls of universities. They're said on blogs. Some of them then get deleted, but then get said and resent and so on. You have a little bit of an electronic arms race between the would-be censors and above all, this very vibrant blogosphere with well over a hundred million blogs ongoing but I think it is closer to two hundred.

I think it's an evolving situation within the walls of the university, the realms of autonomy are really quite strong presently which is something I think is very important, and you cannot say that they are perfect outside those walls. But you can say that these boundaries are being stretched every day, and they're stretched in terms of how people can access news, how they can get internet. I mean, it's a very open society, and in my own case, it's an infrastructure state. It leads you building things that connect people; it's free. And so my cell phone works every place in China and I can get things, in most places, from all over the world in China. My cell phone does not work when I go home to Lexington, Massachusetts over Belmont Hill – never works, cuts out all the time – doesn't work in three quarters of the United States. So the capacity for information across the country, I wouldn't say is greater than the United States, certainly not, but it's extraordinary.

Susan Eastman (Divinity): How would you compare the views of intellectual property in Chinese educational systems with ours? I've heard that there are differences, but I don't know how they treat intellectual property.

Kirby: I think they treat intellectual property the way we used to treat intellectual property. Two stories: last week, I was in Washington for this luncheon at a state department for Vice President Xi Jinping and in his toast for Vice President Biden scolded the Chinese on intellectual property – weakness in intellectual property – and mislabeling and blah, blah, blah. So we have this lovely lunch, beautiful lunch, beautiful fish which is labeled as Alaskan sea fish, by a famous Chinese American, a chef actually from Boston; turns out that the fish is mislabeled. It was Alaskan butterfish he called it, it was a staple fish. He served a much lesser fish, and so we had fake fish (laughter), American fake fish. And it was kind of embarrassing for the United States (laughter).

It changes, so there are lawsuits left and right – Microsoft, others, sometimes successful, sometimes not. It changes mostly – it changed in this country and it's changing in China, because of Chinese enforcing it against each other. And it's actually changing reasonably fast. I had a student, wonderful student, who came to Harvard a number of years ago from Chongqing. Her mother wrote a book called *Harvard Girl*. It became very famous throughout China. It spawned all types of copycat books like *Cornell Boy* (laughter); sold millions of copies. Her mother came to see me when the daughter graduated, just to thank Harvard for the opportunity. And I had bought a copy of the book in Shanghai, and asked them to autograph it – they refused because I had bought a pirated copy (laughter). I didn't know. They had lost \$2 million in sales to pirated copies – they did autograph a real one. The mother is now a forceful advocate for intellectual property rights, and you see this happening everywhere.

I think it's very imperfect. Without question, it's imperfect. And yet it is not unique, if you look at the history of US-Japan relationships, US-Taiwan relations, US-Korea relations, you see some similar patterns, not on a larger scale for sure.

Ruth Day (Chair, Arts and Sciences Council): This council has approved programs for graduate study at



DKU and the undergraduate curriculum is down the road a bit starting with some small things. What do you see

are the challenges for undergraduate programs, as opposed to graduate programs, at DKU?

Kirby: I think there are all kinds of challenges for any sets of programs and it's not possible to kind of start up a whole college. My own sense is to try to think, "How is it possible to start undergraduate programs that reflect the absolute – what you believe – to become the absolute best that Duke can bring to China or bring to any place?" Above all, I'm not a big believer again in saying that I, or somebody else would know, here are the right programs that are going to work. Your faculty needs to know, believe, what are the right programs that can have an international impact. And so to try to have a process which I think is ongoing here now of giving faculty the opportunity to make proposals and to give people really the opportunity to create as it were new curricula, new courses, or to think that some exciting curricula and courses are well-suited for this enterprise, and then to assist those to succeed, that's really, as it seems to me, the challenge.

I wouldn't presume to say what Duke as a university ought to do in liberal arts, but I think enormous strengths that I have seen here. I've seen them in the humanities – we had a meeting this afternoon – and a very interesting proposal about a global humanities program. There was another individual that talked about American studies, and now certainly a very hot topic in China, and taught rather differently in China as you might imagine than it might be at Duke. That would be another urbanization. There are many different ones that reflect really the excellence of what Duke faculty do, and yet would have a real resonance in my view.

This is a country that we used to say in every textbook that 80% of the people are peasants and most students still read textbooks that say that, but today, way less than 40% are actual farmers as their primary occupation; it's a rapidly changing place and Duke is actually in a well prime position to study. Thank you. (applause)

### *DKU Initiative: Provost Lange*

Lozier: Thank you so much for those comments and I think all of us really appreciate your remark that one of the greatest risks we could have is if we lower our standards in the pursuit of these academic programs.

The next item on our agenda is an update on DKU finances. But, before we delve into the costs associated with this initiative, I'm going to ask the Provost to remind this Council of the anticipated value of this initiative. Several faculty of ECAC and UPC have rightly pointed out that a focus on cost must always be placed in the context of value. Essentially the question is: "What are we getting for our dollars?" The President and the Provost have both addressed this Council on this issue a

number of times, but I have asked the Provost to provide a brief review before we delve into the finances.

Peter Lange (Provost): Thank you, Susan. I'm not sure I would accept exactly that consumerist phrasing of what are we getting for our dollars, but I think it's fair to say what are we getting and when we make the expenditure, will the expenditure be validated by what we get?

I am going to go fairly quickly through these slides because I think you have seen much of this material before. So first, why should we be globally engaged at this time? Clearly we believed that our students need a global imagination and education regardless of the vocation that they take on. We are preparing the student where there is not a significant global dimension to what they learned and how they would use that material in the coming decades. We see that the pools of faculty that we want to recruit and the pools of students that we want to recruit increasingly are global in their character. If you want to include the best you're going to not only be able to admit, but you are going to have to create an extension of your magnetism if you want to bring them into your world because if the universities in the other parts of the world are going at a pace where more than talent will remain home unless we can attract them or unless we can be there to draw them.

The greatest challenges now that we see are global in character and Duke has a major commitment to address global challenges through its research and its teaching and the kind of engagement it has in the globe. Truth be told, many of those global challenges will be driven in terms of their dynamism, less by what happens in the United States than what happens in parts of the world, China being one of those places. Think of the strain on our energy system, think of the strain on global climate, think of changes in global health. Each of those areas are going to require that our faculty, if they want to engage those problems, be able to engage them at the place where those problems are coming, the most dynamic and where the solution to them will not just be global in character, it will have a very significant local feature if you are going to begin to address those problems.

A hypothesis that we really begin with is that the great universities of this coming century will have to be global in character and to be a great university, you will have to be global in character. Having said that, we need also to recognize that globalization starts in Durham. In fact, we have been globalizing our campus for at least fifteen, if not twenty years in a very significant way. We have been building a global presence here with the students we have, through the faculty that we have.

I'm going to run through these things very quickly. We have also been taking major initiatives through our schools in multiple sites, almost every school is doing something in a significant way in a global way and those programs are feeding back to our campus. These are the

strategic principles. I am just going to highlight a few in the first. As you can see, there is this stress on high quality, this is what Susan just emphasized, and high quality demands that we need the strictures of academic freedom because we know that freedom in terms of what we think and what we teach and how we learn is absolutely critical to how we can achieve the quality we want.

If you can skip down to the fourth bullet, we have a great opportunity, because of the interdisciplinarity we have on our campus, to build programs which are going to be different than the programs at many other universities can build because we can draw on the linkages between our schools here to bring those kind of linkages to the programs we do abroad. And if you look at the last bullet, I think it's critically important and this is something that I think was implicit in what Bill Kirby said, and this is very much part of the ethos of Duke, which is, we have to be good citizens of the region that we move into. We cannot go there with the view that we can go there and do whatever we damn well please because after all we are Duke, or whoever it is. We need to be citizens of that region and tuned to the region. Our aspirations for DKU and for our presence in China is that we create an open presentational space, that we develop new models of education.

We have great opportunities because we don't have to work within this massive pre-existing structure that we have here on campus. There are huge opportunities that we have for innovation because of that. We have seen the same thing coming out of our campus in Singapore in terms of certain kinds of teaching models. We will create a real research base for our faculty and for our students and we will create an intercultural space for learning and teaching. The fact that we can bring significant numbers of students, not just from Duke, but from the US more generally, from East Asia, and from China together in learning experiences, this is going to be a very special thing. And I keep thinking what that American studies program would be like with that mix of students. That is going to be a really interesting learning experience. How is the US perceived by those other students? How do our own students perceive the US when they are in a different setting and interacting with other students?

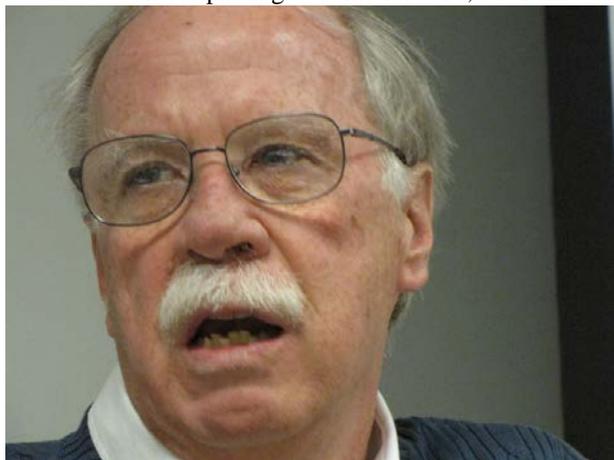
Why the Chinese want us? I just want to stress this. There is a model of US higher education that they are not just asking us for, but they are demanding that we deliver at the highest quality level we can. It is a model which has some innovations from the standpoint of what the Chinese normally see. It is much more interactive, much more involved with critical thinking rather than with the delivery of pre-established ideas. From a horizontal stance, what it means is that they want a broader education. It is not the full extent of a large education as we understand it on our campus, but they definitely understand it, is an education which goes beyond the specialized technical education which they have become so proficient at.

And they recognize that the student experience and the student learning experience needs to extend beyond the classroom into engagement in the kind of communities you can build on campus. So they want a world-class university and we want a world-class university. One that represents all areas of human endeavor, humanities, art, sciences, and the professions and actually takes advantage of the interactions among them. A rigorous application of the kind of strategic principles that I talked about at the beginning and strong continuing Duke leadership in the management of the academic and administrative aspects of the campus. And that is really what we are trying to do. Those are the principles which we have articulated to the Council on a consistent basis over the last many months and I think Susan wanted me to reiterate them. They are still the principles that we are pursuing with renewed vigor in the context that we are now moving to the real program development stage. So, thanks.

### *DKU Initiative: Finances*

Lozier: Thank you Peter. I am going to move now to the update on the DKU finances. Thank you for providing that review of why we are interested in having this DKU initiative before we move forward. I am going to ask my colleague on ECAC and chair of the University Priorities Committee, John Payne, professor from Fuqua, to come forward and give a preface of the faculty's point of view to Jim Robert's financial update.

John Payne (Fuqua/ECAC/Chair UPC): Thank you, Susan. I wasn't expecting to come forward, but I am



happy to do that. Glad I didn't wear my Hawaiian shirt today (laughter). First let me take this opportunity to thank Jim Roberts and his associates for all the information they provided Susan, myself and Warren Grill, on the finances related to the Duke-Kunshan initiative. Last December, I think I received from Jim a set of Excel spreadsheets that totaled something over sixty pages of numbers and text.

I say that, to communicate that I believe we now have a much better sense of the financials involved in the DKU initiative. Much work has been done here, and you

will hear about that. Many of the uncertainties have been identified in this project. We also recognize that there are uncertainties to be accounted for, so there are always some issues in terms of taxation that we know are coming but that we haven't included in the model; there are all these situations that we have, which are called "unknown unknowns" that have impact on the finances and there are always opportunities for manager intervention and improvement as things happen.

But I think it is important for this Council to recognize that we now have a much better sense of the range of possibilities, not just a point estimate, but a range of possibilities, that involve the subsidies or investments that Duke University will have to provide in order to support the DKU initiative.

As Jim will discuss, we have discussed, and now literally done thousands of scenarios called "what-if" scenarios about the possible impacts of different revenue numbers, different cost numbers in terms of the subsidy amount. For those of you who are not familiar with risk analysis, it's basically nothing more than what we all do sitting around the table with our budgets and asking what-if. We are basically taking what-if analysis, looking at a mixture of factors using fairly simple statistical techniques to try and get a picture of the range of possibilities that might occur.

What Jim will present in just a minute is the summary of that risk analysis including the expected minimal subsidies, the expected average subsidy we might look for, and quite honestly, what I call the value-at-risk, what might be the maximum subsidy numbers that we deal with. We decided in our analysis to focus on the total subsidies over the entire Phase I of this project. In thinking about those numbers, recognize that there will be an accumulation over a seven-year period. This is a little different than the risk analysis that we would have done last year which focused on one year, we decided it would be better to deal with the program as a whole.

We also have modeled the uncertainties of the program as a whole level than individual academic programs. Before Jim speaks, I would like to make a few brief recognitions, or things to keep in mind. Recognize that any risk analysis is just a snapshot of uncertainties and beliefs at any given time – February 2012. What we hope will happen is that this will be followed by regular updates every year as we learn more about how some of these uncertainties unfold and new uncertainties might emerge. So this is really a snapshot today, but we expect to update that on a regular basis.

Also recognize that the risk analysis that you will hear does not include the kinds of non-financial risk that we were mentioned earlier today that might be associated with the DKU initiative and also, very importantly, does not include the positive strategic values that the Provost has already mentioned. Finally, at the meeting of the

UPC this Monday when this was presented, the question was asked about how the numbers you will see compared to other investments made by Duke. I am sure that Jim and the Provost will give you lots of comparable numbers, but I thought I would share with you the numbers that I personally find best in terms of putting this in context.

For those of you who are not aware of it, Duke University currently budgeted about \$40 million for strategic funds. That is too little; we hope to raise that up fairly quickly into the neighborhood of \$70 million per year, so when you hear those numbers today, you can have that kind of context in mind, recognizing that it is absolutely not the case that all the subsidies will come out of the strategic-initiative money but it is the case that that is perhaps the best example of discretionary money at the university level. After Jim has made his presentation and answered any questions you might have for him, I would be glad to take any questions that you might have for me.

Lozier: Thank you, John. Now, Jim Roberts, the Executive Vice Provost for Finance Administration will give us an update on DKU finances.

Jim Roberts (Executive Vice Provost for Finance Administration): Thank you, I have five slides for this presentation and John has covered a number of points in my preface. I want to thank John and Warren and Susan. I feel like I should be awarded a second MBA for all that I have learned in this process and it has been very collaborative and we have done quite a few iterations.

We do have a very detailed model, 60 pages was no joke. There is a P&L [profit and loss] for every program



plus models for the campus infrastructure and administration, year by year so I am going to spare you that detail. It is perhaps significant to know that the scale of the campus, when it reaches a steady stage in phase one, year four or five, it is about \$35 million a year comparable to the Divinity School and the Sanford School, a little bit bigger than those schools in fact a little bit smaller than the Nicholas School, so we are dealing with an enti-

ty that is about the size of one of our small to medium sized schools.

And John has indicated that the variable that we discuss today is really one variable – total expected subsidy investment for Duke in this seven year period. This is just a reminder of the basic structure of the arrangements. As you know, Kunshan is funding the construction and will provide the facilities to DKU through a no-cost lease. Duke has committed money to fund the master plan, the construction of the facilities, design and construction oversight; then there is an agreement that the subsidy needed, the investment needed to get the programs up and running, that will be shared fifty-fifty by Duke in Kunshan. I am not talking about the facilities investment today, just the operating costs.

So our point estimate of this investment over seven years is \$38.4 million and a year ago it was about \$37



million, so very little has changed. That is in part because very little has happened. We are still very much in the preparation phase. We have one actual budget commitment, that is the hiring of Mingzheng Shi over there, and so there is a lot yet to happen, so that is what creates the uncertainty of course, which is why we have adopted this strategy of risk analysis.

It is important to emphasize that this is just a heuristic to sharpen our foresight and doesn't reflect, as John has already said, the potential of management actions to mitigate downside risks. So this is the summary of the P&L and it shows the revenues in green and the expenses in red. The purpose of this is to show you the cumulative total but also to demonstrate where that 38.4 comes from; and then these are the categories that we have applied variation to in order to come up with scenarios that mix the values so that we can get a sense of the range of risks.

This is called a tornado chart and its purpose is to let you see the range of variation that we allowed for in the simulation. This leads up to the Monte Carlo analysis where these variables are mixed together randomly. This vertical line, if you read it down to this axis, there is our projected point estimate subsidy, and this scale is the variation that could occur in the subsidy if these variables change one at a time.

Most of the risk is in the enrollment. The enrollment risk captures both headcount and tuition. For example, if our estimates are off by 25%, that is, we only get 75% of what we had estimated, then our subsidy, all else being equal will increase to \$47 million. And you can see by the way this looks, we haven't done this symmetrically. We feel like even though the model runs,

there is a 50% chance of that being above and a 50% chance of that being below, but there is more downside of some variables than there is upside.

So then all those variables are put in the hopper, then as John said, we get a picture of the risk. This is a frequency distribution of the outcomes, 25,000 trials, where these variables are put in the hopper and mixed together within the parameters described in the tornado. So what does it tell us? Well, here again where the red and the blue meet is the points estimate. And you can see the distribution is a little bit leaning to the left because of the asymmetry in those variables and in fact, the affected value is a little bit off our point estimate. It is telling us that the mean expected value of the subsidy is \$39.7 million, not \$38.4 and if you look up here, that there is really about a 40% chance of getting our number, 60% chance of being somewhat worse than our number, and then how worse could it get? Well, again, keeping in mind that management action isn't actually reflected here, if you look at the tenth percentile tail could be down to as much as \$48.7 million, about \$10 million sway, or if you want to look at the 5% tail add another \$2.5 million.

So we think this circumscribes the range of outcomes. Of course there could be positive outcomes as well. There are, for example, additional programs that may come into the mix. This is based on the MMS or Fuqua School if you have already approved the potential, but not the MBA the executive non-degree education programs, the Master's in Global Health is in discussion and a couple of undergraduate non-degree modules.

So, just a little wrap-up, this is really all I have to say unless there are questions. This slide is really the same information but it puts it into amounts per year a little bit better to scale it over time, so the estimated subsidy is \$38.4 million, about \$5.5 million a year predicted subsidy is a little bit higher, about \$5.7 million a year and you can see the figures we just discussed are broken down for thirty year phases. That's the exercise that John and Susan and Warren led us through. They did mention the sixty-page version where you can see where we laid out all the assumptions for the programs but obviously not endorsing every assumption, but here we think that this sort of cumulative approach is a good portfolio, some things will be up, some things will be down, but this is a good estimate of parameters.

### Questions

Lozier: Thank you, Jim. I am going to take some questions, but I did want to emphasize something that John said, there really was no number that we weren't given access to, we think that really says a lot about the transparency. There was really no simulation that we asked to have that wasn't done, so I just want to reiterate what John said, that the Council should feel comfortable

and that we have had some faculty input getting these numbers.

Paula McClain (Political Science): What was the



tuition number that you used and the enrollment number that you used?

Roberts: I can't tell you one number because it varies by program, but basically the philosophy on tuition pricing is to begin with Duke prices but have substantial discount for potential financial aid. So the MMS program, for example, is the same price point as at Duke and that is about \$41,000 but we are assuming that there would be almost a 40% aid allowance, so if we were unable to charge the Duke price, and there are a lot of reasons why we want to charge the Duke price, which I can go into, then we have room to have a lower price, but to give less aid. That variable is accounted for in the Monte Carlo, right, so the Master's in Global Health is like the Master's at Duke but with a lot of financial aid behind it.

Kerry Haynie (Political Science): My understanding of the MMS program that we approved was that it is not a DKU degree, it is a Duke degree. So, what relationship financially is there between that and a Duke degree?

Roberts: All of the degree programs under discussion will be Duke degrees. But operationally, and at least for purposes of this financial model, they are part of the DKU portfolio, so we have all the revenues and expenses associated with the MMS even though it will partly be taught in the US in this model.

Haynie: So we did approve a DKU degree?

Lozier: No, we approved a Duke degree, the DKU-MMS degree. It's an MMS degree that is going to be held at DKU but it is a Duke degree.

Fritz Mayer (Sanford School of Public Policy): Just a point of clarification. You mentioned that there is a portfolio of programs that are assumed in this model, one

of which has been approved, the others are on the drawing board. The variation in that top bar on tuition revenue, does that reflect the probabilistic assessment of the future approval of these programs?

Roberts: Only to the extent that that would be reflected in the asymmetry and the tuition number. So certainly not assumed that they are all there day one.

Mayer: My question is: did you assume that they would all be there financially in this model or did you have some probabilistic approach?

Roberts: We assumed that eventually the ones I named would be in the portfolio.

Lange: We also assumed that no other programs would be there.

Roberts: And they don't all have a positive contribution mark so if one of them didn't happen it would actually improve the bottom line.

Thomas Pfau (English): So a couple of questions. First of all I didn't catch your answer in response to the first question as to how many students you were projecting when you tabulated the tuition rating?

Roberts: Again without showing you more of the 60 pages, it ramps up from approximately a head count on campus of 130 to 530 over this period.

Pfau: That is 6 or 7 years?

Roberts: Yes.

Pfau: The second question. I couldn't immediately see all of the items that you had on the first tornado, and I was wondering, have you budgeted for the kinds of



incentives that faculty are almost certainly going to require in order to go there? Incentives in terms of travel costs and other incentives that I think realistically would be required. Is that part of your budgetary approximations?

Roberts: Travel costs are in there.

Pfau: Anything else?

Roberts: I'm not sure about other things like premiums, living expenses, those sorts of things, travel expenses.

Pfau: There is always a kind of windfall that suddenly shows up in the faculty member's research account that is out of their willingness to go. There are people who are already very richly involved in this campus and it is I think it is somewhat naïve to assume that they will simply pick up their lives and move then 6,000 or 8,000 miles away without there being a little bit more than a polite invitation. So, that is why I am asking. There seems to me, realistically, that ought to be part of the financial plans

Roberts: Again, I think we have adequate travel and things like that but there's no specific provision for everybody going and getting \$5000 research accounts.

Pfau: Finally, the last question I had has to do with the charter. We were supposed to hear as early as last March about whether the charter would be granted and at what rate the tuition levels would be set. I gather that even now we have not yet heard anything conclusive about that...

Roberts: The MOE approval?

Pfau: Yes. Is there any word as to when we will learn and what in fact at what tuition level this charter will be granted ...

Roberts: The application, I think it's been reported here, moved out of the provincial level at the end of January and is still under review at the Ministry of Education. We will have to justify our pricing. In December, several of us visited Sino-British universities that are operating under the same sort of legislation that we are proposed to operate under. They reported that their graduate programs had not had to be reviewed by the pricing bureau but we are prepared to do that when the time comes. There are many reasons why we think we could justify what we propose to do with the generous financial aid commitment or almost like in-state out-of-state sort of rate structure for China. It wouldn't affect this financial picture. One reason for the tuition – it's what it costs. It's not even what it costs. Two: it signals world-class education.

Pfau: If I could just ask in relation to that and one of the questions, one of the factors that surely impinges on the kind of tuition you can charge as to the number of students that apply and the selectivity you are able to achieve. And so are there any concrete projections as to

the kind of selectivity you are aiming for, the kinds of selectivity you can at this point you realistically expect?

Roberts: I think our colleagues from Fuqua may not be here, but those sorts of questions are first and foremost. I cannot cite a particular model that I have, but as has been said here a couple of times, maintaining our quality standards is Job One. So, there will not be a lean towards volume over quality.

Richard Brodhead (President): Can I say something? I don't think I have spoken to this group since I was in China in January and met with the Vice-Minister in Beijing who is in charge of international projects. This was right after the Jiangsu province approval, and they were very forthcoming in expressing not only their support but the importance of this project from the Chinese point of view. That said, if you are going to do something in China you have to learn that things do not happen instantly in China. We believe that China runs by centralized planning, which is kind of true but it's also true that there lots of agents at many different levels that also have some degree in the process. It isn't going to happen until those things are worked out.

I've come to the view that patience is actually an ally if also a frustration. An ally because things will be worked out as best as they can before they get it launched. I'll furthermore say that although we don't have the firm resolution of this yet, I actually believe tuition is approved by provincial agencies rather than the federal one, which begins to suggest how complicated this system is. But when I met with Vice-Minister Hao ping, there was a meeting in Washington last year on international educational cooperation, at which he and I had a private meeting (this was in the State Department). I talked with him about tuition issues, and he said what we charge for graduate and professional issues was not such a concern of theirs – they are more concerned about what you charge for undergraduate programs. That's not surprising.

### *DKU Initiative: Council Resolution*

Lozier: I'm going to draw this discussion to a close because we have two other agenda items and I think it's fair to say that Jim would be happy to answer questions via email and you can also address question to the chair of UPC, John Payne and to ECAC and me as well. Thank you, Jim.

### *DKU Initiative: Council Resolution*

At this point, I will turn to the next to the last item on the agenda which is the introduction of a Council resolution on the DKU initiative. We will not have time for a discussion – I am determined to close somewhere around 5:00. So, what I want to do is introduce it and then the only agenda item for the March meeting will be

a discussion of this resolution at which time we'll have a vote.

If you have been attending these meetings since September, you are well aware that the sole Council resolution pertaining to the DKU initiative passed in December of 2009, allowed for the consideration of academic programs at DKU from Fuqua. It specifically disallowed consideration of other academic programs until further information on the initiative was brought to the Council. During the discussion at our December 2011 meeting, prior to this Council's approval of the DKU MMS degree, a faculty member noted his concern that taking this one step, meaning the approval of that one degree program, would be the start of many steps that would be irreversible. This sentiment resonated with me...at one time. During last summer and indeed at the start of this fall semester when I stood here at the first Council meeting, I also was hesitant about making any decisions on the DKU initiative because we as a faculty were not yet sufficiently informed.

But now, after nearly six months of information gathering by a handful of committees including APC, GPC, UPC and ECAC and, to be fair, after six months of information sharing by the administration, I believe we are now in a position to take further steps with our eyes wide open. If you will allow me the analogy, we were not too long ago like a blindfolded hiker, unwilling to take a step in any direction for fear of stepping off a cliff, but after the blindfold slips away, and the hiker has a view of the landscape, a step further is not a step that risks a precipitous fall, rather it is just a step further. If those steps in time don't lead to the promised mountaintop, there are steps back down. In short, I no longer see the danger of stepping off a cliff.

This Council voted at our December meeting to approve the DKU MMS degree by a vote of 44 in favor, 8 against with 4 abstentions. APC, GPC and UPC have been actively engaged in discussions on the DKU initiative, and in January an open meeting hosted by the Provost for faculty interested in developing DKU programs was attended by 40 to 50 faculty. A follow-up meeting with these faculty was held earlier today, with Professor Kirby in attendance.

And so, in light of the vote in December by this Council, in light of the information that has been gathered about the DKU initiative and in light of increasing faculty involvement in the development of DKU programs, ECAC is proposing a resolution that will allow this Council to take the next step in the DKU initiative. Though ECAC has crafted this resolution, it is important to note that this resolution has been discussed with APC, UPC and the chair of GPC. The Provost has also been informed about this resolution.

The resolution:

*Duke Kunshan University (DKU) is a major academic initiative of Duke University. As part of that initiative, the Academic Council is prepared to consider academic program proposals at DKU that lead to Duke degrees or Duke credit, and that are designed to be reviewed within a two or three-year window with metrics of success approved by the Academic Programs Committee.*

*The Academic Council's endorsement of academic programs comes with the expectation that University expenditures on DKU will be within the bounds communicated to the Council in February of 2012, that meaningful changes to Duke's financial commitment and/or risk be clearly communicated to the Executive Committee of the Academic Council and to the University Priorities Committee, and that academic freedom for all members of the DKU community will be diligently protected, monitored and reviewed with the appropriate faculty bodies.*

Three things to note:

1. The Council would be approving Duke degrees.
2. The Council has a firm expectation on DKU expenditures and on academic freedom.
3. There is a strong faculty role in the development and review of DKU academic programs and finances.

So, this is the resolution that the Council will be asked to vote upon at the March meeting. Please send any comments to me prior to that meeting, but rest assured we'll have a full discussion prior to the vote at the March meeting.

### *Question for the President*

The last item on the agenda is a query that was sent to the Academic Council office on the morning following a recent airing of the CBS news show 60 Minutes, which contained a feature on research misconduct at Duke. As you may be aware, the Council has a tradition of allowing members to anonymously pose questions to the administration. The question is:

*What steps has the administration undertaken to ensure that what happened in the Potti case (i.e. academic fraud and multiple failures of various checks & balances including the IRBs) will not happen again? Why has the administration not directly informed the faculty about this case as it has unfolded? Such communication would have afforded the administration an opportunity to bring the faculty on board with meaningful recommendations and a strong public response to this case.*

This question was forwarded to the President's office, where it was decided that Sally Kornbluth, James B. Duke Professor of Pharmacology and Cancer Biology and Vice Dean for Research in the Medical School would respond.

Sally Kornbluth (Vice Dean for Research, Medical School): I think I'm really glad that there are only ten minutes left! (laughter) I'll make some brief comments and direct folks to some other sources.

The first I'll say about the first question is that I think we have realized and most of our peers have realized that contrary to what's said in the question, it's really impossible to come up with a system that will completely eliminate academic fraud if someone is bound and determined to commit academic fraud. Now, that's without pre-judging the current case which is now a misconduct process.

But I think if there's any silver lining to this whole



odyssey is that it highlighted for us that you can put into place systems which will, first of all, increase the probability of catching someone who is engaged in academic fraud. And I think more importantly though, I think we can provide safeguards to people who are honestly trying to do the right thing but make errors because of problems in the analysis of their data or in the way they've designed an experiment – or for sloppiness.

I think what we found as we looked through the systems, it's much more likely that someone will be sloppy or make an error than will commit fraud. But the upshot of all of this is that this sentinel case which was covered on *60 Minutes*, really prompted us to take a hard look at both the infrastructure and the culture surrounding our research environment. And the outcome of this was a committee that was charged by Dr. Victor Dzau to enact a number of changes which come under the general rubric of what we call the TMQF or translational medicine quality framework initiative.

For anyone interested, the document embodying the principles of this are posted on the School of Medicine website. A number of faculty, about fifteen or so, were

involved in discussing this extensively and it's been vetted with many of the departments. As I said, it's been posted publicly for comment for quite some time. It really has four pillars. Probably most importantly is a pillar concerning the issue of *data provenance*, and I have to say this was not a term I really thought about before this case became prominent. It really refers to chain events, in other words how do you really ensure that the raw data that were generated at the beginning of an experiment are representative in the end in the analysis.

The problem in this case again without prejudging the misconduct because it's something like this can come out either error or intent, is that the original data that was found in the databases was not the data that was used to generate the model, in other words the predictors. The question really has arisen, how would we determine that there were problems with data provenance? One of the things that we are really focusing on is IT systems that will essentially be lock-boxes. So that you can tell if someone has been in to change primary data points, you can tell who has changed it, you can tell when it has been changed. I really believe had that system been in place at the time of this event, it would have been revealed much sooner. So that's one thing. The other thing is really providing the necessary expertise. One thing we found throughout our clinical research community in particular, but really throughout the research community, is that there was a dire need for quantitative expertise that will be applied in every case.

At this point, I can say with some confidence that in all of our clinical research units, we are now insisting on the embedding of bio-statistical expertise. Taking the case where someone wasn't intending to commit fraud but really didn't have the expertise that they should have to be designing these sorts of experiments, we're really making an effort to make sure that adequate bio-statistical expertise is available.

Now, as I said, in the clinical research realm we can do that because we have a very regimented system where every piece of clinical research unit has to go through something called our site-based research unit, and every one of these units now has embedded bio-statistical expertise. You can't just go to your friend down the hall and ask them for their opinion because they have some expertise in biostatistics. I should say that in talking with our peer institutions, our system is being held up as an example of how you want to organize clinical research so that you will have all these expertises locally and present mandatorily.

Now in the basic science area, because if you really think about this case, it wasn't a problem at the clinical research level it was really a problem in data handling and management from the laboratory level. We are evaluating now a number of electronic notebook systems and although we are not going to force every laboratory to use this, we are going to force laboratories to use this if

they intend to translate their work for clinical application in human beings.

Another pillar of this is really scientific review, so the IRB was mentioned in this question, and in fact the IRB does not evaluate the primary basic science that goes eventually into a clinical trial. They evaluate the aspects of trial design, etc. And so what, particularly in the genomics arena but also in other areas where complex data management is required, we're going to enact across the board scientific pre-review before something can go through the IRB. Now in some cases this is being embedded in the site-based research units and in some cases, particularly when there might be a conflict of interest at the university or individual level, or when there's really complex data analysis involved, we're going to try and involve external reviewers from other institutions.

I think this is probably the best we can do in terms of safe-guarding but I do want you to bear in mind that Baggerly and Coombes, who broke the Potti case, spent 1500 hours on the data analysis for this case alone. I think it's not realistic to assume that every protocol that we put through is going to get 1500 hours of analysis. I think the heightened awareness is really making people realize that they have to have a certain level of data management in place.

The last two things I'll mention, one is research accountability. Part of the problem I think, is we want to make sure that we have a culture, if you will, of loyal dissent. If anybody sees anything that they think is not of the highest possible scientific quality, they should feel free to raise it at any level. A combination of anonymous ways of reporting concerns about research practices, but also educating the faculty and the leadership that this is the kind of environment we want to have at Duke – people need to raise their hand and say there's something wrong with these data. And I think leaders will need to encourage that, and as part of that we are going to, if you will, sort of force our unit leaders within the School of Medicine to articulate what their accountability plan is. In other words, how do they encourage such a culture and what sort of institutional things can we put in place that offer venues for people to really question the data of their colleagues?

So, that's really what the translational medicine quality framework is about – we want to be able to catch errors when they happen and prevent them from being translated into clinical practice. We have finished the document on the principles and we've been working very diligently to figure out exactly how we're going to implement these changes and what the price tag is on implementing these changes, because obviously all new data management systems is not going to be a small investment.

The second part of the question submitted: This asked about communication and I have to confess, it's very difficult to answer this question without being defensive because we really did try to communicate. But I think you need to think a little bit about what this case looked like. When we first received concerns from the NCI and also from the external folks about what might have happened to the data in this case, we were really constrained from doing too much communication because there was a very real possibility of smearing the reputations of people who really did nothing at all wrong whether by misconduct or by error. Now, once it began to progress, then when it moved into the official misconduct phase, we're prohibited from saying anything when something enters misconduct. Once, what we call "CV-gate" broke, in other words once it became clear that there were errors in Dr. Potti's CV, I can say honestly that at that point that was not under a misconduct umbrella, that was not something that was kept close, and I think the communication at that point really moved quite publicly. There were multiple interviews in the Chronicle, in scientific journals, etc and I know that I and Rob Califf must have spoken to dozens of different faculty groups, the clinical research leaders, the chairs, the junior faculty, etc. I think the problem is, and we're struggling with this now with the TMOF as well, how do you communicate broadly to faculty about something like this. I'm not convinced that mass emails would have been the way to tell this story and it's not something you stand up and give a lecture about, so we're open to suggestions about how one can improve communications on a topic like this because certainly as we've tried to make these changes, we need to articulate a benefit to the faculty recognizing that some of it is not going to be perceived as a benefit. Some of it is going to be perceived as yet more regulatory burden. How we communicate those things is something that is now in active discussion, and I welcome any suggestions.

John Staddon (Psychology & Neuroscience / Faculty Secretary): Sally, I have two questions. The first, one you've sort of answered, which is obviously any kind of regulatory intrusion affects the spontaneity and potential creativity of the research enterprise. You seem to be aware of that problem.

The second question concerns the incentive structure for people who live off research grants – "soft" money. To renew a grant you have to show progress. If you have to pay your mortgage from a grant, what do you do if things don't pan out? Suppose key experiments show negative results – as Dr. Potti's evidently did and as they often do in real research? The incentive to fraud can be high. Do you worry about that?

Kornbluth: Oh, we worry about that a lot. You know, I think there are two approaches to that. One is, being somewhat relentless in the education of the trainees because they're the ones who are going to be subject to this pressure because in most cases they're the ones

who are carrying out the actual day to day science, and we've really tried to up the responsible conduct of research. That's part of it. The other thing is really education of a faculty – I see this in my own laboratory. You get all excited about something and the students and post-docs assume that you want that result to turn out that way and I think it's our responsibility as faculty to educate faculty, particularly junior faculty as they come in, that articulating that enthusiasm for a topic is not the same thing as preordaining what the results are going to be. It's difficult, and I agree with you under increased financial pressure it is tough, but the best we can do is to educate and provide systems that will enable us to detect problems when they occur at least early enough before they get to the translational point.

Richard Hain (Mathematics): It's my understanding that the university received pretty early on concerns from some of the statisticians at the University of Texas, and then nothing really happened until this issue with the vita came up. At that point, there was a review of Potti's work but that committee was not given the concerns of these Texas biostatisticians who turned out to be absolutely correct about the problems. So they saw something, that nobody including the statisticians who worked with Potti saw, so what did they see and why weren't their concerns brought to the attention of this committee?

Kornbluth: Okay, I have a slight correction in the timeline as you presented it. We were given concerns from the NCI in 2009 and frankly the concerns of the NCI I'm sure were based on the conversations with Baggerly and Coombes at MD Anderson. Immediately after that, we commissioned an external review, so it wasn't at the time of the CV-gate as we call it, it was immediately after. Now as I said, I had not heard the term data provenance – you often walk a fine line between trusting your faculty, particularly ones who have a stellar, long track record, and I think we honestly thought this was an arcane statistical dispute at the time.

So, we brought in biostatisticians and they were asked to validate the methodology. In other words, they were given these data sets, they cranked through them all and said yeah, this creates at least to some approximation or reasonable approximation, the models and predictors that were published and that are being used in the clinical trials.

What we didn't appreciate at the time, was that the raw data, as I said, were different from the data that were used for the analysis. Even if our reviewers had been given the raw data, it's not 100% clear to me that it would have been picked up at that point, and the reason is because – it's a little technical to get into – but you had responders and non-responders, and there was essentially a swap, an even number of responders and non-responders were swapped. So unless every single data point, and that database had been examined, that might not have come out then. That was the first thing.

Now as to why there was not a response immediately to the biostatisticians from outside, and I think this has been very widely discussed publicly, so I'm not saying anything that's not been published elsewhere, we received a fairly, vigorous response from the investigators that was concurred with that said, look the data should speak for themselves. You hired people to do the analysis, let them do the analysis without biasing them up-front. Now, hindsight is 20/20 and if you asked me in retrospect, do I wish that they had seen that original data set? You bet I wish that had seen that original data set. There was not any real intent to hide anything, I think. Particularly scientists involved felt like, you know the data should speak for themselves, give them the data and let them analyze it.

Hain: Why didn't you after these folks had looked at and said the methodology was okay, at that point why didn't you give them the concerns of the Texas biostatisticians so they could say, oh God we missed something! Or these guys are out to lunch! That seems to be a fundamental mistake.

Kornbluth: That is a fundamental mistake, I will say that. I agree that that would have stopped the train at

that point. Now whether that would have had, in terms of the timing, it wasn't very long between the reopening of the trials and the CV issue – whether that would have had a difference in the outcome at the end, I don't know. But certainly, everybody involved wishes that the problems had been realized early on, but I don't think there was any attempt by anyone to hide what was really going on, it was an honest human error.

Lozier: Thank you, Sally. I'm sure Sally will take further questions if there are any. At this point, I'm going to call our meeting to a close (applause). Our next brief Council meeting is on March 22 which will precede the Annual Faculty Meeting at which point President Brodhead will address the faculty. I hope to see you then. Have a good evening.

Respectfully submitted,

John Staddon

Faculty Secretary, March 9, 2012