

Duke University

DURHAM
NORTH CAROLINA
27708-0928

ACADEMIC COUNCIL
304 UNION WEST
BOX 90928

phone (919) 684-6447
e-mail acouncil@Duke.edu
fax (919) 681-8606

Minutes of the Regular Meeting of the Academic Council

Thursday, January 17, 2013

Susan Lozier (Chair of Academic Council/Nicholas School of the Environment):

Welcome to the first Council meeting of 2013 -- I trust all of you had a lovely holiday season, that the start of the semester has gone well so far and that you're looking forward to our first snowfall this evening (laughter). For those of you who have made and already broken any New Year's resolutions, perhaps you will take heart from the adage that my Dad used to share with all of us on January 1st: "A New Year's resolution is simply something that goes in one year and out the other" (laughter).

I would like to welcome back those members who were on sabbatical last semester and wish all of those Council members who are on sabbatical this semester a happy and productive time away.

I would also like to extend a warm welcome to Duke Board of Trustees member, Martha Monserrate. Ms. Monserrate has joined our meeting today out of interest in today's Council Conversation. As with Rick Wagoner's address to the Council in November, her visit today is a much-appreciated show of support for faculty governance at Duke. Welcome (applause). Speaking of today's scheduled Council Conversation: The President's schedule precludes his usual prompt attendance, but he does hope to be here in time for the event.

Honorary Degree Update

I have a few announcements before we turn to our agenda items:

First, you may recall that I solicited nominations for honorary degree recipients at the October meeting. Ira Mueller, Special Assistant to the University Secretary, wrote in early December to tell me that the Honorary Degree Committee was delighted with the four nominations from the faculty. Two of the nominees were selected for the short list of candidates for consideration for 2014; the other two will be retained for consideration for future years.

I want to give a special shout-out to Council member Jocelyn Olcott, I don't know if she's here. After the Council meeting last April, in which I read the bios of the 2013 honorary degree nominees, Jocelyn asked me just exactly where those nominations came from. There were two outcomes from Jocelyn's inquiry: first, ECAC decided to make this process more transparent and second, Jocelyn is now a member of the Honorary Degree Committee, (laughter) so be careful what you ask.

January 1963 Council Minutes

My second announcement is more of a note: As part of our 50th anniversary celebration, I have been sharing with you, over the past several meetings, some anecdotes from the 1962-63 Academic Council minutes. Truth to tell, there is really only one passage from the January 1963 minutes of much interest to anyone other than me and past Academic Council chairs. So it is your good fortune that the passage that I am going to share with you today is the one I think you will find of interest:

From the AC minutes of January 24, 1963:

“Hamilton [chair of the Council] gave a brief report concerning the Council meeting called for December 3rd after an invitation had been received by the football team to play in the Gator Bowl. The meeting became unnecessary when the team voted, on December 2nd, not to accept this invitation. Hamilton stated that he had written Mr. Cameron suggesting that it might be better to consult the Council before players are asked to vote on such matters, to preclude overwrought emotions, and that he had asked Mr. Cameron to congratulate the co-captains on the team’s decision not to play.”

I did some fact checking: Though posting an impressive 8-2 record, the Blue Devils indeed did *not* go on to post-season play. Instead, Florida, the Gator Bowl’s third choice after Duke and Georgia Tech declined invitations, upset the heavy favorite, Penn State, in that year’s Gator Bowl. Still a mystery to those of us 50 years down the road: why a football team would vote against post-season play. And did those overwrought emotions belong to the football players....or to the faculty? (laughter).

Martin Luther King Jr. Commemoration

My third announcement concerns the University’s 2013 Martin Luther King Jr. Commemoration, which commences today and continues through next Thursday. The highlight of the Commemoration is the keynote address at the service this Sunday at 3pm in the Duke Chapel. This year’s speaker is Reverend William Turner, one of Duke’s own, having earned a degree in electrical engineering, a master of divinity degree, and a doctorate in religion, all from Duke. Dr. Turner is currently the pastor of Durham’s Mt. Level Missionary Baptist Church and Professor of Practice in the Duke’s School of Divinity.

As a 1971 Duke University graduate, Dr. Turner was a member of one of the first classes to include African Americans. As we celebrate the 50th anniversary of Duke’s integration of its undergraduate student body, Dr. Turner’s presence at the podium will be particularly poignant. I encourage all of you to attend, and indeed take some time next week to participate in many of the planned events. Finally, as with last year, in honor of the Martin Luther King Jr. commemoration and in recognition of the new year, I offer this thought from the 17th century French playwright, Molière: *“It is not only what we do, but also what we do not do for which we are accountable.”*

Upcoming Academic Council Election and Professor Jack Preiss

My final announcement regards the upcoming election for the Academic Council members. Last Thursday afternoon, as we waited to enter a meeting room, a current Council member commented to me that it seemed to him as though the work of the Council was largely conducted in other faculty commit-

tees; that Council deliberations were often not as meaningful or consequential as one might like and, as such, perhaps we no longer need the Council.

You can imagine that this suggestion gave me pause. And in that pause I put together two stories that provide my best response to this suggestion. One story is about my mother; the other is from a retired Duke professor, Jack Preiss.

The first story: My mother is not a complainer. And so years ago, after listening to her complain for several weeks in a row about the latest Sunday sermon, I asked her why she bothered at all to attend that service. She admitted that she no longer goes out of obligation, but that she goes out of habit because every once in a while a sermon is delivered that really makes an impression on her. The problem is, she explained, there is no way of knowing when those sermons will be delivered, so she makes a habit of going each Sunday and, in the long run, is rewarded.

The second story: Last fall during an ECAC meeting, Maurice Wallace asked me about the intersection between the Academic Council's 50th anniversary and the 50th anniversary of the integration of Duke's undergraduate student body. I did not know the answer, but thanks to the efforts of Valerie Gillespie, University Archivist, I was introduced to Dr. Jack Preiss, a Duke Professor of Sociology and Anthropology from 1959 until his retirement in 1987 --- and he provided me with the answer to Professor Wallace's question.

In our University archives is a letter that Dr. Preiss wrote to the Duke faculty in May of 1962, six months before the creation of this Academic Council, the University's first faculty governance body. In his letter encouraging racial desegregation, Dr. Preiss notes that "no concrete evidence of overall faculty expres-

sion is now on record." As such, Dr. Preiss encouraged Duke faculty to sign a resolution recommending that undergraduates be admitted to Duke "without regard to race, creed or national origin." Reading a copy of this letter with Dr. Preiss when we met last Thursday afternoon in my office, I asked him, "How did you get the signatures? Where did you take this letter?" He responded, "That was the problem, Susan. There was nowhere to take the letter."

I don't pretend that every time we gather we are attending to university business that is as momentous as the consideration of desegregating our student body. I don't pretend that these Council meetings can't, at times, be tiresome or routine or, to some, overly ritualistic. I don't pretend that the business of this Council seems at times like finished business. Keeping each of these meetings meaningful for over 100 members is a challenge every Academic Council chair has understood. Yet, though every meeting does not keep all of you at the edge of your seat, by assembling each month we stay in the game. And staying in the game means we are ready for the big innings, whenever they may come along. Some innings there are three up and three down; but, another inning, there's a grand slam. Who's to know what the next inning holds?

And so, by gathering each month, staying informed on University issues, we are making a habit of faculty governance that will hold us in good stead when a faculty voice is needed on desegregation, on presidential libraries, on faculty compensation, academic freedom, campus diversification, global initiatives, online education, and perhaps, even on parking (laughter).

So, my two stories converge at this bottom line: For those members whose terms are expiring this spring, I encourage you to re-

enlist, opt-in and stand for election. To all continuing members, and in fact, to everyone in this room, please encourage your colleagues to stand for election. This Council is fueled by the willingness of those of us willing to make a habit of faculty governance. Thus concludes my sermon for today (laughter and applause). I hope there are no complaints. But if there are, you can send them to my mother -- she'll understand.

I do have one footnote: Dr. Preiss's individual efforts paid off. The letter that he wrote was approved at a faculty meeting that he called on June 1st. On June 2nd, Duke's Board of Trustees passed a resolution stating that students should be admitted to the undergraduate college of Duke without regard to race, creed or national origin.

Dr. Preiss, now 92, still living in Durham, plans to be at our February meeting to tell you more of his story and our past, which will be part of our second Council Conversation on Teaching and Learning at Duke. Something tells me he may also put in a plug for faculty governance (laughter). Stay tuned.

Approval of Meeting Minutes

Moving, alas, to our agenda. Our first item of business is to approve the November 29th meeting minutes.

(Approved by voice vote with no dissent).

Report from the Academic Chair Nominating Committee

Next, I will call on Professor Lori Setton, from the Pratt School of Engineering, for the report from the Academic Council Chair Nominating Committee. My two-year term as Academic Council chair will end June 30th. As such, ECAC charged a nominating committee last

November with vetting and selecting two nominees to stand for election to this post. The new chair will take office on July 1st. I'd like to inform the Council that we will no longer vote for the Academic Council chair during the February Council meeting. Instead, sometime in the next few weeks, all of you will receive an email from Sandra with an electronic link to a site where you can vote and with that email there will be the candidate's statements of interest, their bios and their photos. We're moving to this just to allow more members to vote. At any one particular meeting we have attendance on the order of 80%, and what we want to do is allow everyone the opportunity to vote. Instead of voting at the February meeting, I will be announcing the new chair at the February meeting. Does anybody have questions about the voting procedure? If not, I will turn this over to Professor Setton.

Lori Setton (Biomedical Engineering/Orthopedic Surgery): Thank you very much Susan, and thank you for giving me the opportunity to serve on the committee. It was great fun and I got to serve with many of the most engaging and committed faculty at the University. On my committee I served with: Gary Bennett (Psychology & Neuroscience), Dennis Clements (Pediatrics & Global Health), Carl Mela (Fuqua), Brenda Nevidjon (Nursing), Suzanne Shanahan (Sociology), and I represented the Pratt School and Orthopedic Surgery. We really represented a pretty broad constituency across the University. What we did was meet and assemble a list of 17 candidates that we thought would all be quite suitable for serving as chair of the Academic Council and then I was tasked with heading out there and trying to get these seventeen individuals on board and excited about serving as chair. That was a lot of fun and I had a lot of really exciting and engaging interactions with this list of seventeen faculty but we had to narrow it down to two and I

am delighted to present those names to you today. First, I will tell you about Tom Metzloff who is here and amongst us today. Tom has served as a member of ECAC and he has served multiple terms on the Academic Council, I believe at least four. Many of you know Tom from the extensive service that he has contributed to the University on multiple committees including as chair of the Faculty Compensation Committee, a member of UPC, he served on the Board of Trustees' Finance Committee as well as the Facilities & Environment and has been on advisory committees for campus construction projects over many years including the New Campus and West Union Renovation. He's been chair of the Faculty Hearing Committee, and the list just continues on. In addition, Tom has served as Senior Associate Dean in Law and he has taught regularly overseas in Geneva and Duke's Hong Kong Summer Institute, so he has a really broad exposure to the global education program.

Our second candidate that we selected is Josh Socolar. Josh is a Professor of Physics with multiple appointments in institutes and centers across the University including the IGSP, the Center for Theoretical Mathematical Sciences, Non-linear and Complex Systems and many others. He's well-known across a broad range of schools and disciplines at Duke. Josh also has served as a member of ECAC and has served multiple terms on Academic Council, and you may know him as a member of APC. He's served on Assessment and Planning subcommittees for Health Sciences and he has represented APC in external reviews of many units across the university including Cell Biology, Music, School of Nursing, and African American Studies.

We are quite confident and excited to present those names to you. We'll look forward to the outcomes of the election to see who you se-

lect to be the incoming chair. Should I take questions?

Lozier: I don't think there'll be any questions except for everyone to ask "why didn't you select me?" (laughter) Anyone want to ask that one? (laughter) Thank you Lori for your work and also please thank the committee members for their work as well. I also want to thank Tom and Josh for their willingness to stand for election. Your commitment to faculty governance is much appreciated.

Neurology Proposal: Transition from Division to Department

Our next item of business is to hear a proposal regarding the transition of the Division of Neurology within the School of Medicine's Department of Medicine to a Department of Neurology. This proposal has worked its way through the various channels. The APC resolution was with your agenda and I will also note that ECAC also approves this proposal. So, it now comes to the Academic Council before it goes on to the Board of Trustees. We will hear the proposal presentation today, but then vote on it at our February meeting. I just want to remind you that the Academic Council has heard and approved similar requests from the School of Medicine: most recently in 2010 when Orthopedic Surgery transitioned to a department and in 2009 Dermatology also made that shift.

Today to present the proposal we have Nancy Andrews, Dean of the School of Medicine, and Dr. Ted Pappas, Vice Dean for Medical Affairs in the School of Medicine and Dr. Joel Morgenlander, the interim chair of the Neurology Division.

All of you received the material and we're hoping that the presentation will open up some questions.

Dr. Ted Pappas (Vice Dean for Medical Affairs): Thank you very much for the time.

Just as a brief background, we have a medical school that has 13 departments which is a little bit unusual. That is a small number of departments for most medical schools like us. If you look around the country, most medical schools like us would have maybe 15, 18, 19, 20, 25 departments. We're clearly on the small end of that and that's because we're in a model that historically worked for us. As things happen over time and we have divisions that look like they will thrive better as departments we go through that process. That is why you have heard over the past couple of years Dermatology was able to make the case and we certainly supported their process of moving from Division of Internal Medicine into a department and then Orthopedics left Surgery in 2010, did the same thing and has progressed as a department. What we are here to present today is the case for Neurology moving from a division within Internal Medicine into a separate department in the school. I just have a very brief number of slides which you've probably seen already or were sent to you electronically.

Of the top 30 Neurology programs in the country, Duke Neurology is really the only one that is not in a separate department. We're a division and everyone else is a department. If you look at our national standing as far as how we function as a clinical entity in Neuroscience, we're functioning at an incredibly high level at least according to the US News & World Report rankings which are not the be all and end all but is one of the measures we look at. And as you can see in yellow, the progress from our Neurology science clinical enterprise moving from 20th to 8th in 2011. We've had a steady increase in our ranking and have delivered a clinical performance and certainly an academic performance that is commensurate with that.

Thirty eight faculty that are clinical providers, nurse practitioners, physician's assistants and PhD faculty make up the current division that we're requesting moved to departmental status. They cover the entire gamut of clinical diseases and conditions in Neurology. We have national leaders at essentially every level of subspecialty in Neurology that ranges from stroke through epilepsy, myasthenia gravis, Alzheimer's disease and others. We truly have a very, very visible future department.

The clinical practice really occurs across the city of Durham and other counties and across Durham medical centers so the inpatient work is mostly done on 4200, the neurointensive care unit at Duke Hospital. There's a very large inpatient stroke service, very large inpatient Neurology service. Durham Regional Hospital also has Duke faculty that support the Durham Regional Hospital inpatient Neurology Service. There is also the outpatient consultation both on Duke campus, at the Durham Regional campus and Duke-Raleigh hospital has an inpatient service, consult team, stroke team and then various successful and profitable labs in EMG, sleep, and then other clinical locations in Durham and Raleigh.

From an educational point of view and what we are walking through, is some of the criteria that we use internally within the school to decide when we're going to move a division into a department. One of those is how we do in education. Our neurologists are involved in neurobiology lecture series. There's a core rotation in the medical school in Neurology. There're Neurology electives, sub-internships, rotations at all of our hospitals including the VA hospital. As you know the curriculum in the medical school has a third-year that is an off year for research and other things, so there are neuroscience research opportunities for our students that our faculty engage in and then there is a Neu-

rology interest group where medical students are able to cultivate an interest in Neurology.

Graduate Medical Education, Residencies and Fellowships: there's a very highly regarded four-year residency program in Neurology that is six positions and then ACGME approved fellowships and grants in neurophysiology, sleep, vascular neurology and neuromuscular and some ACGME- approved fellowships in neurocritical care and mood disorders.

If you look at research funding, this is the trend over the past several years and our indirect and direct research funding. Certainly, our plan is that as it moves towards a department there would be investment in the new department and we fully expect this external funding to grow. This is not meant to be read but just to remind me to remind you that we've done a pretty careful analysis of a five year budget. One of the criteria that we do in creating a department is that it has to be financially self-sustainable--it can't be a financial draw on the university or the school or anyone else. It's got to be a business model that works, and so we did a five-year analysis looking at the growth of Neurology, expected growth based on the current trajectory and show that it easily supports itself because it is a robust, clinical business.

Just as a reminder of the entire process that we're in the middle of--this goes through some of the dates of what different meetings that we've had presenting the case of moving this division to a department. Obviously, this is today and then these are the rest of the steps for the final approval by the Duke University Board of Trustees.

Lozier: Perhaps I can provide a recommendation because the Council has seen all these slides in preview so perhaps a summary?

Pappas: That was my last slide.

Lozier: Bad timing on my part. A strike-out. That was your last slide? Fabulous. I will now open it up to the Council for questions. I have a question. Actually, Dean Andrews, when you came to ECAC and we had this discussion one thing that I know that APC was concerned about, and also ECAC, was this issue of this division sits within sort of a context of neurosciences and many different sites, etc. across the university. The question was how does this transition to a department help elevate all of neurosciences and perhaps any related fields as well?

Andrews: One of the things that we've worked on very hard over the last few years has been to have better integration among a variety of units that have great strength in neurosciences in the School of Medicine, the Department of Neurobiology, Division of Neurology, Department of Psychiatry and Division of Neurosurgery within the Department of Surgery. We also have neuroscientists in many of our other departments, and so just within the school trying to bring the major units that have connections to neurosciences together has been a big priority. In fact, we received a very nice gift from the Duke Endowment two, maybe three years ago, to help us with that growth and integration. Of course, all of those units also plug into the Duke Institute for Brain Sciences in various ways. There is, I believe, almost 100% of the faculty in the Department of Neurobiology, for example with faculty members who are in DIBS. Collaboration outside of the School of Medicine has also been a high priority. Getting back to your question: while all of that happens, now I think having a Department of Neurology instead of a Division will aid us in recruiting really outstanding people for all of our three missions – clinical care, research, and education. It's a little harder to make the sell now for really top faculty members, students and residents when it's a division within a department.

Second, we were very fortunate indeed in December to receive a \$10 million anonymous gift, designated for relatively unrestricted use for academic activities, primarily for research, in the new, if it becomes one, Department of Neurology. Again, I think that with the direction we've been heading and with the attempts we've already been making, to encourage synergies with other units both within the school and outside, so that the gift will benefit everyone.

Lozier: Are there any other questions? If not, I will thank you for your presentation and please excuse me regarding your slides. We will invite you back for our vote in February.

Council Conversation: Structure of the University

Lozier: We now turn our attention to our first Council Conversation. As you recall to celebrate the 50th anniversary of this Council, ECAC has decided to focus on how Duke in 2012-2013 differs from Duke in 1962-1963 and what those differences portend for Duke in the years and decades ahead. As a very brief summary, three conversations are planned: one on the Structure of the University, one on Teaching and Learning at Duke, and one on the Professoriate. Our conversation today is on the Structure of the University and is motivated by Duke's transition from a department-based institution 50 years ago to one today where the research and teaching missions of the University are shared responsibilities among departments, institutes and centers. To discuss how we got here and where this institutional diversification might lead in the years ahead, ECAC has invited three faculty members from across the campus to share their thoughts on this subject. Allow me to introduce these faculty members and ask them to come down. I will start with a familiar face to many on this Council and

that is Professor Warren Grill. Warren Grill, the Addy Professor of Biomedical Engineering, has secondary appointments in Neurobiology and Surgery and is affiliated with the Duke Institute for Brain Sciences. Dr. Grill's research interests are in neural engineering; specifically he studies the electrical stimulation of the nervous system for restoration of function. He joined the Duke faculty in 2004, and just last year was a member of ECAC. Tom Nechyba, Professor of Economics and Public Policy, is also the Director of the Social Science Research Institute and has a secondary appointment in the Sanford School. Professor Nechyba specializes in public finance, fiscal federalism, and the economics of education. He joined Duke in 1999. Dr. Shenglan Tang, Professor of Medicine and Global Health, is the Associate Director of Duke Global Health Institute and Director of the DKU Global Health Research Center. Professor Tang's research focuses on health systems reform, disease control and maternal and child health. Professor Tang came to Duke just one year ago, in January of 2012, from Geneva where he was a scientist and research manager with the UNICEF/United Nations Development Program/World Bank/World Health Organization Special Program for Research and Training in Tropical Disease. Welcome to you all. As you may recall, Karla Holloway, Professor of English, was a scheduled participant for this conversation, but much to Karla's chagrin, she was called away to a conference in Paris that conflicted with this event. Hard to believe, but she chose Paris (laughter). The last thing that I have to say is that I will serve as the moderator for the discussion. I am going to start with some questions, but then I am hoping we all participate in this conversation. I will open it up to questions, comments, etc.

I will first start with the question that I am going to ask the panelists: "Why were departments sufficient for university research

and/or teaching in the 1960s and why are/aren't they now?"

Warren Grill (Biomedical Engineering):

When Susan first proposed this question, I wondered whether they were sufficient in the 1960s. I'm not entirely convinced of the premise of the question. One observation is what I call the liberalization of information. That is, in 1960 it was much more challenging for me as a biomedical engineer to access information in other areas, so the information naturally gravitated and was held within a departmental silo. And, as access to information has been liberalized by a number of means including universities and certainly through the electronic revolution, it's much easier for me to get access outside of my own area and leave my silo to participate with my colleagues. I think that has contributed to the growth of things between departments which at this institution are centers and institutes.

Tom Nechyba (Economics & Public Policy): I should have said in the introduction that I am also a proud neighbor to Jack Preiss who I should have talked to before coming here (laughter). He should definitely come in February. He's quite an impressive man.

But my reaction to that question was a little different, and a maybe somewhat different take on this. I think departments were sufficient perhaps because the world was different and disciplines were different. I think the world was different in the sense that the problems didn't have--I don't want to minimize the problems the world had in 1962--but they weren't as apparently interdisciplinary in terms of the potential solutions in as many areas as I would suggest they are now. The other thing is that disciplines were different. I know we all come from our own corners, but if I look at my discipline and the people who were at the top of their game in 1962, a number of them did not know calcu-

lus, which today, calculus is a prerequisite for any undergraduate who wants to major in economics. The discipline became more hierarchical and I think it happened probably to a number of other--though not all--disciplines, where essentially the barriers to entry to the discipline became higher over time. If I think of the people in 1962 who were economists they were also well-read in history. They knew quite a bit of political philosophy, not all of them but I think more than today by the looks of the people who are at the top of the profession today. It's become more difficult to be that sort of connected; it's just sort of a somewhat different take because while information is so much more accessible now, in some sense we're less well-read in other areas in part, I think, because we have to do much more to be experts in our areas. I think the people, certainly in disciplines I am most familiar with, were more inter-disciplinary within their disciplines but at the same time, the world did not call for as much of that as now.

Lozier: Shenglan, do you find the same true with your discipline?

Shenglan Tang (Medicine and Global Health): Yes, I just want to echo what Tom already said. The world has changed so rapidly particularly in the last fifty years and especially in my areas of tropical medicine or global health. One hundred years ago people focused on the tropical diseases, they just wanted to tackle infectious diseases particularly coming from Africa or somewhere in Sahara Africa. Fifty, sixty years ago they started to look at international health, meaning providing technical support from the developed countries to developing countries to tackle these health challenges. Now, compared to ten years ago, a new type of Global Health is emerging. We talk about south-south collaborations and north-south collaborations. More complex problems are facing

health areas. What is changing and how effective have we been in tackling the multidisciplinary problems? Also students actually want to know more--not so much the problems in this country but also the problems in other corners of the world--Africa, Asia. We need these sort of entities, institutes, centers to tackle all of these kind of challenges.

Lozier: I think most of us here probably would have given the same answer as maybe one of the answers here, meaning that this need for interdisciplinarity came out of the need to solve some pressing problems and also there was technological capability in order to do that. But the other interesting answer I found was yours, Tom, when you said that perhaps even without those pressures that disciplines themselves when left alone become increasingly narrow. What I am wondering is do you see that trend continuing and if so what is the endgame? I know in my own field fifty years ago everybody was an oceanographer and now there are physical oceanographers, biologists, marine biologists, chemists, etc. So, if we are educating in our own field, increasingly subdividing the disciplines takes us further to reach across those disciplinary fields. What's the endgame then?

Nechyba: I think what it suggests is that there is progress to be made in the disciplines and there is basic science to be done and I don't think any of us would argue that we're at the end of that process. The trend of disciplines diving deeper and becoming more specialized in some of their work, I think that is likely to continue and it's likely to produce basic science results that have brought benefits. At the same time, the question then becomes if we can't all become Renaissance men and know enough about everything to tackle increasingly common problems how do we do it? I think the answer is something that we are trying to do at Duke which is to work in teams and recognize the gains from

specialization when brought together in team efforts in order to solve problems. When framed that way, I think the whole buzzword of "interdisciplinarity" takes much less of the flavor off of "ok, so disciplines vs. this new thing" but rather it's the depth of the disciplines coming together in teams to solve problems that makes it a positive sum game rather than a zero sum game. It's not that the disciplines have to lose in an area of problem solving that's more interdisciplinary. It's rather that disciplines are essential for a team-based approach to solving those problems.

Grill: I think the other thing it suggests is if we think about our title here "Structure of the University" that departments may be dissolved and new departments reconstituted as a result of this distillation and expertise if you will. I came from Case Western Reserve University, and there in the late 1960s after two institutions federated, they dissolved all of the departments in the school of engineering and they reconstituted a new set of departments and from that came their two most successful departments: Biomedical Engineering and Macromolecular Science. This is an example of people who had some expertise that weren't in departments, they took the structure completely apart, reassembled it and from that they derived tremendous success.

Lozier: So, at a modern university where we merge both education and research, if we talk about this transformation with the research and moving from the disciplinary, I shouldn't say disciplinary to the interdisciplinary, but rather an inclusiveness of the interdisciplinary, how does this impact our teaching?

Nechyba: I think we're trying to answer that question at Duke with programs that are being talked about as we speak and this week alone in the Chronicle the program that has come to be talked about is Duke IDEAS, which

is trying to precisely answer the question of how do we take this insight that the disciplines have something to contribute, to a team based approach to solving problems. How do we take that approach from a research perspective into one that connects to our teaching? Can we actually engage students at different stages of learning in that very same process of being parts of teams which is what they have to do in the real world, especially as they go out and make that integral to what teaching means in the 21st century. I think that's exactly what we are trying to do and the question we are trying to answer.

Jane Richardson (Biochemistry): I have a question along those same lines. I absolutely agree that we need teams and interdisciplinary work but when teaching is talked about at the graduate level no one has yet mentioned training grants which I think are one of our most successful means of bringing people together in teams in very flexible ways. One of the problems with an institute is that it has a great deal of inertia and once you get it going, it can be a really great thing but it does what it was organized to do and it's not very easy to change it any more than it's easy to change a department. I'd like to see us come up with mechanisms that are more flexible, faster on their feet to do interdisciplinary education and training and I'd very much like to see the training grants and that kind of mechanism. They may not necessarily be based on a federal grant anymore, given some of the resources that they do not have at the moment.

Grill: I think those kinds of resources could be viewed as fertilizers of interdisciplinary activities as well because if you bring together a group of faculty from different parts of the university to a shared training mission then they're likely to start working together

and bumping elbows in a shared research mission as well.

Lozier: One of the reasons I was particularly interested in having Professor Tang join us is that I'm sure he's thinking quite a bit about the structure of Duke-Kunshan University (DKU). Most of us when we think about structure we have this complex structure and then we are changing things at the edges but we often don't think about what we would do if we started from scratch. So, I am just wondering about your thoughts about the structure that DKU should take. I know that you are not responsible in its entirety for DKU (laughter) so I'm sorry to put this on you but you are going to be the director of the first research center there. I'm just wondering about your ideas regarding a structure that you might have there, and keeping in mind Jane's question about the training grants.

Tang: Obviously we need to think about the investment, how much money and resources are available? We started very small in DKU and the Kunshan municipal government put in lots of money into construction but in terms of operations both Duke and the Kunshan government put a very modest investment in the earlier stages. So, we started very small in terms of faculty working in DKU in areas of Global Health. I am thinking that the structure should allow us to be more flexible, to provide a platform on which faculty with different disciplines could work together and that also could lead to a group when the opportunities evolve in the future. We will focus in the Global Health Center in DKU on three major areas: environmental health, health policy and health system research, non-communicable diseases (NCDs). We hope these faculty included in DKU--in the Global Health Center--could work together to tackle the common problems. For example, we can pick up the non-communicable diseases which account for more than 85% of the total

burden of diseases in China or in the region and they'd look at the impact of environmental health--pollution, for example which we now see a lot about in the media reports --for air quality in Beijing or other places in China these days. We could look at the impact of health system reforms on these diseases and these challenges. We are hoping that by starting small, with high quality, we can provide a more flexible structure in order to grow in the future.

Patrick Charbonneau (Chemistry): One of the questions I have is we have talked generally about the problems already visible throughout the years. But where does Duke stand within the spectrum of schools that are at the forefront of breaking down the departmental structures and schools that are very engrained in it? We'd like to envision ourselves in that we are the forefront, but is that the impression that you get in some of the different fields?

Nechyba: I don't know that we will in my lifetime breakdown all those departmental barriers and I don't necessarily think that we should. I do think that Duke--other people know much more about this than I do--has a reputation for being at the forefront of this. I think what we are trying to do with the program is to bring that into the teaching mission of the University more squarely. I don't think anybody, at least that I am aware of, is doing that right now and in some ways once you sort of think about it, it's the natural next step. If you buy into the idea that disciplines are important, but by themselves can't tackle some of the big problems to date and that teams will be the vehicle to do that, then bringing that into the educational mission is the natural next thing to do. So, I think we're the first to actually do that. I do think we are at the forefront.

John Payne (Fuqua School of Business and ECAC): Warren, I was very struck by your comment about Case Western and the idea that at one point you sort of wipe the slate clean and then rethink what units you would want to have. Let me pose a question which is, if you think about the number of units we had fifty years ago, think about the number of units we have today and when we're in this Council meeting fifty years from now, how big will the faculty be? How big will the number of units be and is that going to create a problem and more specifically, it seems to me, if you think about one of the motivations here which I totally agree with is that there are problems that are best solved through teams and interdisciplinary efforts. Well the problems are going to change. You sort of alluded to that. They are not the same that they were in '62 and they won't be the same in 2032. Do we have mechanisms in place that will allow the departments to go away or are we going to have a system that essentially just says, it is much easier to add than it is to go away and we're going to have just more and more cooks?

Grill: I think that we are very good at starting new things. I think we're not so good at ending, I don't want to call them old things because they might be young and still deserve termination. I think frankly that this contributes to the lack of resources to do new things because the challenge associated with not doing something that really is no longer a priority, contributes to the escalation in costs, not just at Duke, but broadly in higher education. If you look at corporations, they do this much more efficiently and effectively than we do in higher education.

Nechyba: When I first started, which is not that long ago--two decades ago in academics, if you would have asked me what is the University going to be like in thirty years, forty years, I would have thought that I had a pret-

ty good answer. Not just because I was young and naïve but because most people might have thought that. What you are plugging into is that the world is changing much faster. A year ago probably none of us had heard of Coursera and all that is coming with that. The question of how we become a nimbler institution as we focus on problems and engage disciplines, I think is profoundly important--because the natural path is to go from a center to an institute to a school. If we follow that path in areas where problems are changing, we'll have as many schools as we have departments and it is not clear to me that at that point we are continuing to make a positive sum gain. I think keeping it a positive sum game requires that nimbleness and that is a challenge.

Bruce Jentleson (Sanford School): It's an interesting discussion because we tend to sort of think of knowledge and ideas over time as this linear progression forward over history, but there is a certain cyclical aspect to it. We're talking about relinking the disciplines. Mine are Social Science, Economics, Political Science, Public Policy and Sociology and they are all talking to each other more. But in the 19th century, both Adam Smith and Karl Marx would title a lot of their works "Political Economy." It sort of speaks to a re-recognition of complexity which is hard. Like a lot of you, Tom was saying what professionalization and specialization and I think the notion of interdisciplinarity in some respects is trying to at least do is link different kinds of specializations so that we get that kind of interconnectedness for complexity. If we think of that as sort of a horizontal linkage across disciplines within the context of the university, I think the other thing for us to think about in terms of the role of the university in society is what I would call a sort of vertical relationship between the university here and the rest of society. We tend to think of our knowledge going towards helping so-

ciety but it's an interesting question: in all of our disciplines what is there that we can learn from society, from others, who study the problems, write about them and think about them that are not trained academics? Whether it is thoughtful journalists or cultural commentators or others, not so much the wisdom of the crowd thing but people that do have specialized expertise, and so as we move forward maybe we also want to think about this connection between whatever our discipline is and other aspects of society for both what we can teach them and provide for them and what we can also learn from them.

Phil Costanzo (Psychology & Neuroscience/ECAC): I just wanted to mention that I thought a very important point that was raised was the sense that the university structure is not a fixed entity but must remain somewhat nimble. I think that what happens psychologically in universities is that once something is put into existence, it's like a live cell--it will continue existing unless you shoot it (laughter). But there is a sense in which how you innovate and at the same time stop that innovation and move to another structure becomes critical. It's critical to evolution, and I think it's critical to any system that's dependent on structure. The other question which is a totally different one is in all the discussion of structure and the relationship between teams from different disciplines, much of it is predicated on a sort of scientific discovery metaphor. The question becomes how do entities that don't operate within that metaphor participate in this colloquy. The humanities, historical thought, philosophical issues, being brought to bear on these very same questions where we're not solving, necessarily, problems of how to build a good prosthetic for individuals who can't walk or how to build a better school system but we're into thinking deeply but still remaining nimble is sort of the issue. How do you bring areas that don't lend them-

selves to a scientific disciplinary basic principle and translate that to a model to bear on their work in a larger liberal arts context? I don't know if that makes any sense but much of what was discussed really does fit within something I am familiar with which is the sort of translation of science, but what about the larger university and how does that fit?

Lozier: So you're saying to those who their scholarly work isn't focused on problem-solving, how do they fit in?

Costanzo: Not necessarily problem solving, that's right. Not necessarily within the scientific context of advancing knowledge to a point. Learning something new, bringing new perspectives, showing another large advance but it has to do with moving what one knows by a different set of models. How does that fit into the University?

Tang: I just wanted to follow up on what a colleague from Sanford School said. We want to solve the problems based on new knowledge and new evidence but sometimes the center or institutes that we create do not necessarily have the main purpose of generating new knowledge. Of course new knowledge is one of the key mandates of the University but also the University has a mandate to educate or to make a difference through using applications of new knowledge. Many people are not very good at teaching in universities and they are not good at generating new knowledge through research but they are very good at applying existing knowledge into policies. These people are very passionate about making a difference on the ground. For example, we work in Global Health and some faculty are very good at supplying the technical assistance we call consultancy services for WHO or Gates Foundation to make a difference on the ground. They produce very high quality consultant reports and they influence policy making in

developing countries. These kinds of new phenomena emerging within the University present a lot of challenges to the University. For example, how do we judge their academic contributions? Traditionally, these kinds of output could not be used for their academic promotions. I was a faculty member in the Liverpool School of Tropical Medicine for ten years and I had one colleague who was one of the authorities in the Human Resources for Health in Africa and the WHO brought him in for advice and policy considerations but he was struggling to get a promotion. After fifteen years on the faculty, he is still a junior lecturer so these kinds of challenges we are facing need to be taken into consideration.

Lozier: If I can summarize this, you're saying that our current structure doesn't really allow us to completely address problems of today because practitioners who are vitally necessary are not rewarded or don't find a convenient home in the structure of the university? I'm actually not on the panel but I am going to answer this (laughter) if you allow me just thirty seconds. I think this is called chair's privilege, isn't it Sandra?

I think my answer to your question is I suppose there is a distinction between service to society and knowledge in the service of society. A university's role is principally, perhaps not in the practice of problem solving, but in the approach. I'm certainly happy to open this up to the panel.

Nechyba: If you think that it is an important thing to actually be out there and consulting and changing the world with knowledge that is created within the University, the question is: is this the University's job or are there intermediate areas? I think often times we have thought of it as the universities produce the knowledge and then there are the intermediate areas that are going to take this knowledge and change the world with it and that is sort of the division of labor. But it

comes back to what was said before which is “is there a flow backwards?” If it’s only one way then that makes sense. It makes sense to cross the specializing, create the knowledge for someone else to take that knowledge and do the consulting. But, if there’s knowledge that is supposed to flow back that actually helps inform what we do here in the creation of new knowledge then we actually have an argument for why we should be doing what you said. I think that’s the argument for engagement with the world, for not just doing it ourselves--ok, we’re going to throw this knowledge out and if it’s good, people will pick it up.

Lozier: We’re the knowledge providers.

Grill: If I can respond to Phil’s point, I’m not sure I understand entirely the distinction you’re making but it did, I think raise a risk of the focus that we have on interdisciplinary studies between the studies and this notion of translation. This is not just unique to Duke. I think it’s on the national scale. It’s where grants are going from federal funding agencies that we don’t lose sight of the importance of depth and fundamental study within the disciplines. Where the impact of that may be uncertain and may have a very, very long time horizon and because that is what is eventually going to feed the fire of the interdisciplinary/translation activities that we are celebrating now. We need to be cautious as an institution that we don’t forget about the depth within discipline.

Anne West (Neurobiology): I think that the intellectual appeal of interdisciplinary institutes is so strong and of course is a wonderful way to address questions, but there can be negative side effects. Some of the ones that I’ve seen sort of raise this question of why can’t we get rid of the departments and just make them institutes. In what I do, in science, the real goal is to innovate and innovation

takes money and it takes time. In order to have the time to really develop an idea, it can be many, many years in the development especially if you are young and are just getting started, you need support. Departments have money and they have support and they’re able to help you during those times -- watching the difference between people in different environments -- those who are affiliated with the institutes with the departmental affiliation might not be as strong, often have a harder time getting access to the funds that they need to actually see that idea through. So, the financial structure of the university can actually influence the likelihood that these innovative ideas survive. If there’s going to be proliferation of these interdisciplinary institutes, then we need to be funding them in ways that allow institute faculty to get the same kind of financial backstop support they can get from departments.

Grill: I’ve always heard the argument made in the opposite direction. Certainly in this Council the argument has been made over the last several years that the existence of institutes and centers is pulling resources that would otherwise be invested in the departments so it is very refreshing to hear the opposite argument being taken.

West: I think that a lot of people are drawn. Recruitment can be promoted by having institutes, great wonderful intellectual environments. But, you can see in the case of Neurology, having a department is what people want because they want the resources in order to know that they will be supported when they come to the school.

Lozier: I think that we all want to be in your department (laughter).

West: There’s space...

Michael Gustafson (Electrical Engineering): I'm curious about one thing with respect to the structure of the university which was alluded to earlier. How far behind are we at looking at how the educational aspect of these new centers and institutes feed into our undergraduates and graduate students? If we're really just now looking at "okay we've got institutes and centers," what do we do with the undergrads and grads to make them get the advantages that we believe are being had by the faculty members and researchers as a result of maybe bringing down the importance of the departments and raising up the importance of centers that are more sensibly putting these little Venn diagrams around various people within the university?

Nechyba: So, are you saying if we lag far behind in...?

Gustafson: I would even be willing to say that we are lagging behind, how much further behind are we? Where is the focus on the students involved?

Nechyba: I think there has been a progression. We have various interdisciplinary options for students. I think in a lot of people's minds, a lot of us have been trying to figure out what interdisciplinary means and it was bound to be first crystallized in research because that is what most of us are seeing as our life's work. As we, I hope, have come to the view that interdisciplinary research is not about destroying the disciplines and creating something where everybody sort of knows everything and that's how we do interdisciplinary work. But rather, that the disciplines are coming to a table where we solve these problems. Then, it becomes quite natural to think about the next step: ok, if we can do that in research what does it mean for education? What does it mean for students at every stage? It may well be that we look back and say "well shouldn't it have been obvious that

this is what we should have been doing?" And my hope is that what we are doing is a good idea and good ideas often have the nature that you look back at them and say "well this should have been obvious from the beginning" but it is only obvious once you start thinking about it. I think you are on a journey where it's hard to look too far ahead. I was speculating the other day, suppose we move all of the departments to institutes and institutes sort of become the new departments, what would we then need? Well we'd need institutes of economics and institutes of physics where the basic science can be done to support these new departments that we just created.

Lozier: We did talk about this regarding the flipped classrooms. So in education we think about flipping roles; we talked about as we move down, I wonder if the core intellectual centers of the university are these institutes and people reach outside the institutes that are problem-based for the disciplinary connections. So do we switch that as well?

Dennis Clements (Pediatrics and Global Health/ECAC): Given the pace of change, acquisition of knowledge, the emergence of new fields, etc., it occurs to me that it is possible inside of a university for the pace to be so fast that by the time you get started on it--actually get it fixed, actually enroll students--you get to some point that that phase is already gone again and you're now onto something else. It occurs to me that we somehow have to think, in all of this, of something broader. That was the benefit in the old department. They were sort of big enough blocks and how do we take that into consideration? Just the pace of acquisition, knowledge and expansion. Everybody is not only a subspecialist but a sub-subspecialist. So that we are broad enough that we can be inclusive. I just see that as a potential problem.

Nechyba: It links to this sort of nimbleness that we talked about and I wasn't going to do this but I can't help myself. I'm directing the Social Science Research Institute. What we're going to try to do and what we call SSRI West--you get a little postcard saying a SSRI West is coming--we're trying to create an environment that has more of a Google-like feel to it. An incubator for innovation where there is an understanding that for something to be worthwhile it doesn't have to become a center. It can be a project that solves a problem and it goes away and in the process of having multiple projects that have people coming from places where they would never interact with each other, new ideas for new projects will form. It's a different sort of environment where you don't need to create a new initiative or a new center. You can start work now as you get the right people together and you just do it. If it works, well it may become something bigger or it may solve a problem and may not need to become bigger. I'm not saying that we've solved the problem by any means, it may not work, but I think thinking about nimbleness and figuring out institutions that can be more nimble, that can come and go more easily in this ever quickly changing environment is crucial. I think we're going to experiment our way to something that hopefully will work and maybe get out of the mindset that everything worthwhile has to have a center or institute or something associated with it.

John French (History): I was just going to say that I'm actually struck by the fact that we are using interdisciplinarity to talk about a question that's really about institutional structures. The question of interdisciplinarity, if I go back to the 90s there is a much more sophisticated discussion than the use that has been made here. There's nondisciplinary, transdisciplinary, interdisciplinary, and then there's metadisciplinary, which is

the argument that eventually all knowledge will converge into one broad field. The problem that I have is the question about the structures. The fact is, in creating institutes we are creating silos and it's fine to say that they're going to be nimble silos which I think is what was being suggested in the question. But, the truth is that faculty coming together out of the energy that creates a program or a center that gets some sort of active support and excited faculty, once there's an institute or these other structures that are also doing hirings and having staff people, some of which duplicate things already done in the departments and things like that, the fact is that you are creating something whose impacts could well be seen as less nimble. Eventually, if you end up with a lot of appointments, you're going to end up with the question of--especially if some of them are not tenured and some of them are and some of them are half-tenured in an institute and half-tenured elsewhere--at what point are those people going to participate in faculty governance? And in what ways are institutes going to integrate into faculty governance? Which is an interesting question. The final piece, which is just a historian's thing, is that I'm not sure that a lot of the observations about the evolution of the university that have been made here are necessarily deeply grounded in a close-up history of American universities. Whether it is Harvard or Yale or the British university system -- I think the question is much more complex. We're also talking about the vast proliferation of all sorts of other levels. The expansion of all of the nondisciplinary parts of the university is one of the gigantic issues and this could well be seen as part of that challenge. The questions really are big questions. I, at least, wanted to hear people's responses to looking at it in sort of the reverse way or looking at it from the historian's view. I think we tend to be a little bit skeptical about everything being generated by the idea that the world is

changing, things are different, things are going to be completely different in whatever else as opposed to the idea that there is in effect powerful forces of inertia, continuity and everything else which I do think is part of the story that we're dealing with.

Tang: I agree with you. Sometimes we create new centers and new institutes that try to adopt a multidisciplinary approach but don't work very well. Sometimes we create new centers and new institutes that have been working very well. Take again the Global Health Institute as an example. Fortunately Duke does not have a School of Health. In the United States, there are now about 70 or 80 Global Health centers and institutes. Many universities have already a strong School of Health where their faculty is working around the world. Many faculty from the School of Health see Global Health as their mandate. So they have difficulty in accommodating or in taking the faculty from the School of Social Science to work together because of diverse interests, money, and publications, whatever. Here, we don't have a School of Health. So over the last year I found that faculty from different schools who have schools of Public Policy and Environment Sciences work together. Lots of universities in this country are envious of Duke's totally different approach. You have to look at it contextually, otherwise it's very difficult to judge whether or not this would need a new center or institute or something.

Lozier: Let me ask a little more directly about the point that I think John was trying to make. Are we, in our effort to move away from silos, just building other silos that have different names? I want to get to your question about faculty governance as well. With structure, is it any different having a structure where we have boundaries around centers or around institutes than having bound-

aries around the department? Is there really anything fundamentally different about that?

Nechyba: I think sometimes we are. I think sometimes we are creating new silos and even silos within silos. Again, I will refer to my institute in this case where we have a number of centers and they sometimes have said to faculty, if you don't like your silos on the campus come to 9th Street where we have the Social Science Research Institute, we have other silos to choose from (laughter). Haven't figured out how to not do it that way but there are also examples of cases when we have broken through the silos. It's certainly possible and I think that in our own case part of it was where things were located, how easy was it for faculty to get there, things like that. Those are the sort of mundane things that oftentimes are part of what will either create the atmosphere where silos are more likely to be put up and where they are less likely to pop up and that is not to say, in defense of my center, they aren't doing incredibly good work but I think that's a very good point.

Lozier: The word silo is very pejorative, right, and we're using that but also...

Richard Brodhead (President): Unless you're a farmer (laughter).

Lozier: Unless you're a farmer, true. But are we really talking about a group of faculty who have a shared intellectual focus and that focus may change over time? Understandably we have to have some structure, right? The faculty of 3000 individuals, it's not difficult to imagine with group dynamics that at any particular time it's impossible for all of us to decide how we move forward, etc. So, there has to be some structure and we can call them silos or not silos or something. But, I think the point is, how should we evolve those to make sure that we're maximizing the intellectual

productivity of the University. It may not be the structure we have now, and it may be that we need more nimbleness, and it may be that we need faster turnaround, etc.

Costanzo: It may also be that we may be misguided in thinking of the structure itself. The structure is no more than an entity to promote bottom-up collaborative approaches to knowledge generation, change, that kind of thing. If the structure doesn't allow that and it becomes a silo, that's perfect reason for it to terminate; it's not promoting the kind of bottom-up integration of scholars from different places, it's not serving its role. There is less of an opportunity to correct that in departments. Some departments can be quite renegade, with regards to keeping things quite intrinsic and siloed. Other departments, more open. I think that it's up to institute directors and centers that have those institutes to ensure that does not happen at that level. It's a different academic entity where bottom-up collaboration becomes critical to promote these rather than some top-down legislation.

Lozier: I just want to follow up on the question about faculty governance especially since I am chair of this Council. Do you think that the complexity in the University that we have now is detrimental to faculty governance? Let's think about 1962, and I appreciate the historian's perspective, as it probably wasn't as simplistic as we think it was. Is there any difference with the complex university structure we have today and the direction we are moving in terms of faculty governance, meaning faculty's involvement and participation in decisions about university policies, hiring, etc.? Is there any difference there than with university structure fifty years ago that perhaps had their silos just in departments?

Grill: I think the interaction between faculty in different departments through the institutes and different centers may actually promote further engagement in faculty governance because individuals recognize the importance of things that are bigger than just their own department or school.

Nechyba: A lot of this is coming from the faculty. Fifty years ago, faculty were reading the files of students who were applying to Duke and making admissions decisions. I don't see a groundswell of a movement among the faculty to devote our time to that so we have professionalized that. Am I sure that we would make terribly good decisions without that being really a part of the culture in the way that it was then? I think we have, within a more complex structure, specialized somewhat more and found more comparative advantages and we see it in advising systems where we professionalize some of the advising but some of it we really do think the faculty is the best place for advising. I think that has probably changed much and will change more. I also think that it is probably true that as we see ourselves as part of something more than just our department, it's likely that we will look beyond our department to actually have a voice.

Nan Jokerst (Electrical & Computer Engineering/ ECAC): I think the discussion has wound around to how the faculty are really influencing the structure and maybe in a few different ways -- Phil, as you said, faculty coming together on a joint vision or on a joint problem. But, then we also have faculty that are recruited to have a center specifically or to retain faculty, then a center will pop up. I think there are various methods through which these centers and institutes are popping up. I would ask the panel, about what John brought up, which is something very important-- how do centers evolve such that we don't need to sunset them and does the

origin of the center in any way influence how they evolve or sunset?

Grill: I think if they have a clearly defined mission at the beginning, it may make the end a little clearer. If you have an ambiguous mission, then it's very hard to know, well are we successful? Are we done? In fact, maybe the Provost should demand that proposals for institutes and centers have a plan for their ultimate demise (laughter) whether they are successful or not.

Brodhead: I've seen that done and never saw it work (laughter).

Henry Rice (Surgery and Pediatrics): This is a fascinating discussion and I'm trying to synthesize it and see where we are going to be fifty years from now, whether it'll be happening all over again. It seems to me that a common theme, Dr. Tang you sort of talked about is, we have lost some of the best and the brightest to other structures that are more nimble, if you will, than a university. That's where ideas happen, that's where people come and go at a faster pace, that's where a lot is happening. Looking into alternative structures from what we have now, is there a way you can see that we can do things without walls and that can engage the best and the brightest in our systems?

Tang: Not necessarily to change the structure--you can change some policies and modify some. For example, when I came here, the terminology of Professor of Practice (POP) was very new to me and then some of my colleagues told me that POP means teaching. The faculty that have done much in research or couldn't demonstrate that they could become a tenure/full professor, these people often are POPs with some contracts for three or five years. But I think we could expand the kind of scope of a POP. The Professor of Practice could be a faculty who engages in teach-

ing. We need good teachers. Good academics or good researchers are not necessarily good teachers. We all know this. The Professor of Practice could be people who are good at the practice, working in international foundations, have lots of experience in the practice. The students need this kind of scope. We are training students who could become academics, who could become policy makers, who could become practitioners. I think the University needs a dynamic--people with different experiences, skills and knowledge. I think we could consider these kinds of jobs and we also probably need to modify the criteria for promotion of these faculty. You can't use the same criteria to assess the performance of these people.

Nechyba: To the larger question of walls, the challenge is to have enough structure of the right kind so that things can grow without them getting suffocated. It's a balancing act, and I think you're never quite at the sweet spot, but you want to be conscious of those two opposing forces.

Grill: This notion of nimbleness, I think, has a lot to do with careers of the people who are here. In 1962, if you were an engineer and you got a job at IBM, you worked there for 33 years, retired when you were 65, you had a pension, you went to your lake house and that was the end of the story. If you graduate today with a degree in engineering, you're likely to have multiple jobs at the same time. On Monday, you're working in one place; Tuesday you're at home starting your own business; Wednesday you have a consulting thing going. We've been slow to catch up as tenured faculty to the idea of dynamic jobs, and I think as we move towards that, and as we've begun to with part-time faculty, Professors of the Practice, then those changes will enable us to be more nimble.

Richardson: I wanted to talk about one institutional change that I think we could make and would help us with the nimbleness -- it connects to a lot of other comments that have been made. I think we need to seriously improve our promotion and tenure process, because it isn't just for our Professors of Practice. It's actually for normal people in departments who do truly interdisciplinary work. And, they are very seldom successfully promoted because each department evaluates them against people who are 100% in their department -- neither one of them thinks they quite come up to it but they may be 130% total. We really need to deal with this.

Grill: I don't know if that is a big issue or not.

Lozier: I think that is an issue that I have not run into, but maybe if the Provost were to answer this he would say that increasingly this has been a concern of the APT committee in terms of appreciating interdisciplinary work.

Richardson: Well, I would say it's impacted half of our candidates in the years that I have been here.

Peter Lange (Provost): I can't speak for the School of Medicine, and I will not speak for the School of Medicine, but I do not believe that it is a problem on the campus side. And I believe that the APT committee is actually the protector of the ability of interdisciplinary candidates to get promoted and in fact, pays great heed to that when candidates come up. And when there's a suspicion that an excess focus on departmental interests has negatively affected a candidate coming up for promotion, APT then pushes in the other direction.

Richardson: I'd be glad to give you examples. It's not just between departments, it's between departments and centers also.

Lange: But, as I said I can't speak for the School of Medicine.

Lozier: I'm going to end this at ten after just because I feel like there are still some questions here.

Mary (Tolly) Boatwright (Classical Studies): This has been fascinating, and very exciting, and a couple of things I just wanted to come back to. One, is institutional structure and another is, as you mentioned, the Duke IDEAS. If we think about part of our mission, not only to help the best and the brightest people be their best, but thinking about teaching and training undergraduates who don't know very much, I am interested in hearing your thoughts about the effects of institutes on the training of undergraduates. And after that, I am very wary of having a two-tiered institution for faculty and you've mentioned this with the Professors of the Practice, that there are some who are able and have the time to go to many meetings and to be in these think tanks and then there are others who are teaching people Spanish 1 and whatever. I'm interested in the education for the undergraduates, particularly at the lowest levels and then the institutional training and how this works.

Grill: The impact of centers and institutes on that? Certainly in the Council, we have on multiple occasions, when we have discussed the hiring of faculty within institutes, we've discussed the potential impact of that on teaching and in particular an area of concern is if those faculty that were hired within institutes began to devote a significant effort to teaching that would then impact the ability of departments to hire faculty for teaching. There was almost the notion expressed of precluding institute faculty from having a significant teaching role and reserve the importance of that role in departments.

Nechyba: With respect to Duke IDEAS, one of the questions that a place like Duke has to be able to answer is, why send your kid to Duke? As opposed to a great liberal arts college where research is not as emphasized and your kid's going to have ten, fifteen, twenty times as much time with their faculty as they will at Duke. One of the answers has always been there is something that comes from the research mission of the University that can translate to the undergraduates. We often-times, without meaning to, believe that there is no conflict between teaching and research, just as we're writing in our grants the lines for buying out our teaching. What this Duke IDEAS holds the potential of is honestly saying as a faculty member, I am advancing my intellectual agenda at the very same time, in the very same place, with the very same people I'm teaching because I am finding a way for them to become contributors. Undergraduates aren't likely to always be making the biggest contribution, but they can and this is the big challenge for Duke IDEAS. Can we create enough of an infrastructure for undergraduate involvement that they become a benefit to these project teams? The answer for the success of the program is going to have to be yes. That's going to require us to rethink some of how we teach and innovate in some of those dimensions.

Lozier: We're going to take two more questions.

Jan Ewald (History): Thank you very much for holding this open discussion. If I hadn't gotten your email and invitation, I wouldn't have come and it's been very, very interesting. I'm hearing extremely different sorts of models of gaining or creating knowledge and transmitting it. And I hate to sound like Snow in *The Two Cultures* way back then, but there really does seem to be a difference between the more quantitative disciplines and the scientific modelist as the gentleman in front

stated earlier. For example, I think most historians have not set that our knowledge of history has just *Ka-pow* grown in the last thirty years. It's really different. The configurations, and the way we interpret things have changed in enormously exciting ways, but there isn't an overwhelming sense of "we have to learn so much more that is new and we have to specialize so much more." That seems to be sort of fundamental, because again I think at least from how I understand my discipline, we don't have such a sense of becoming really overly specialized. Both individuals and departments can be enormously nimble in shaping their own research agendas and the directions in which departments go. The Duke History department looks very, very different than it did when I first came here, and I am not going to say when that was!

Lozier: But it wasn't 1962?! (laughter)

Ewald: Absolutely, I was a prodigy and I am remarkably well preserved (laughter). It sort of goes over into teaching too because I listen to what Tolly has said and I strongly agree with her. In many departments the most interesting researchers--and I'm patting Tom Robisheaux on the back--and the most interesting teachers are one and the same. We really emphasize that if you can do exciting research in this discipline you can teach it. I am not at all saying that the Natural Sciences and the quantitative sciences are mistaken or wrong, but there really is a difference I think in the way that those of us from, say, the Classics or History or maybe Cultural Anthropology work and conceive of our work and conceive of teaching. I never really thought of this but it has become so clear as I've sat here and listened to people. I'm beginning to wonder where do the Humanities and some of the more interpretative social sciences stand in all of this.

Nechyba: If we are trying to address problems in the world, then for many that I can think of, it would be shocking if you wouldn't look towards history as part of what informs the process of getting to a solution to that problem. So, that the economist who is in the more hierarchically oriented discipline where you have to take six courses before you can even begin to take an elective course... that kind of view of education and of teams and of solving problems creates needs for us to figure out how to work together. Now, it also means that if one of your students in history is going to be on a team where I'm going to have a bunch of work done that is highly quantitative, we find ways of both students being able to communicate with each other and that's an educational challenge that is going to be there, not just for my student but for your student as well. If your student is going to contribute to my team, they need to be able to have conversations about tables of econometrics not to do econometrics but to know how to talk about it and to have a conversation about what those numbers mean and then be able to give that perspective that history can bring in. The Humanities may add questions of meaning that we simply can't get to when we're trying to solve an actual problem. What should the schools be doing to do a better job of transitioning kids into adulthood? Well, at some point we have to ask the question what is the ultimate goal of being an adult in today's world and that creates a role for the Humanities.

Ewald: That's the big question, the underlying question.

Lozier: Let's move onto Maurice. When you say what is the ultimate goal, apparently according to Warren it's to spend your days at the lake house (laughter).

Maurice Wallace (English & African/African-American Studies/ECAC): I don't belong to an institute or a center but I am sympathetic to them and I am deeply committed to interdisciplinarity. I'm interested about the conversation that we've been having and the near equivalencies rhetorically and sort of conceptually, I think, between interdisciplinarity corresponding with institutes and centers and something like disciplinary purity belonging to the departments. I think that's probably an overlap that is worth disaggregating if we can. I'm interested in the ways in which it seems that the institutes and centers bear the burden of having to prove themselves in some ways that departments don't. I wonder about the degree to which the emergence of centers and institutes may be in response to the idea of disciplinary purity not welcoming something that is more transparently interdisciplinary within the departments. It seems to me that departments have their own evolution as well. And that what departments look like today is probably more palpably interdisciplinary in many cases than it was fifty years ago. It may be worth thinking about how to talk about the evolution of the discipline and the identification of the discipline with departments and to imagine that departments can also and are doing what we are calling interdisciplinary work not left exclusively to.....

Lozier: We shouldn't push it out into the centers and institutes but that it can be in departments as well?

Wallace: Yes, yes.

Lozier: I think on that, I'm going to thank our panel (applause). I'm going to take a second to remind you that in February, Professor Peter Burian will be the moderator for a discussion on Teaching and Learning at Duke and in May we'll have our third Council Conversation on the Professoriate. Many of the issues

that were raised here today will continue to be discussed. I'll see you in February. Enjoy the snow! Thank you all.