Professor Christine Shoemaker, Civil and Environmental Engineering: "I’m Christine Shoemaker and I am the moderator for the Faculty Forum on Computing and Information Sciences. There is a handout in the back and I hope everyone has one (Appendix A, attached). The schedule for our forum is as follows: I’ll make a few opening remarks, most of which are on the handout; then there will be a summary of the Task Force Report; next, a response by the Computer Science Department; next, there will be introductory comments from each of the remaining panelists; and finally, we will move to questions and answers from the floor.

1. OPENING REMARKS BY MODERATOR (Appendix B, attached)

"We have a very distinguished panel. All of the people on this panel are distinguished researchers in their own right, doing work on applications of computational science in their own field. As you can see from the various departments here, it is a representative sample of what you see at the University. Dean Constable and Geri Gay will introduce the Task Force Report and the other panelists will make individual comments. Questions from the audience can be directed to any of these people and I, as moderator, may choose to have several people respond to one question.

"On the written handout, there is a description of current status of the situation with Computing and Information Sciences. You may want to look at that. As you know, a Dean of Computing and Information Sciences has been appointed and Computer Science has just been financially moved to report to the Dean of Computing and Information Sciences. To give some more details, approvals for searches, hiring, promotions, and tenures rests with the Office of the Provost and the CIS dean. Also, Computer Science faculty remain voting members of the College of Engineering as well as voting members of the College of Arts and Sciences. This statement was reviewed by the Provost this morning, and he agrees with it. There are still many details to be worked out.

"Now, we struggled with what kind of format to have when there are so many people who want to voice their, sometimes strong, opinions. What we’re going to do is have a microphone down in front. People can line up behind it and we will answer questions in that order. Questions are limited to one minute and can be answered by one or more panelists. On any one point, we may need to limit the amount of discussion, depending on how long it goes on. The initial questions should come from faculty; non-faculty may ask questions after 5:30. The procedures are being recorded and you can obtain a copy from the University Faculty website eventually.

"The forum focuses on the academic and intellectual issues associated with the future of Computing and Information Sciences at Cornell. The Dean of the Faculty has asked the panel members not to respond to questions or comments about the administrative handling of the process. If someone wants to make a statement, he or she may do so, but there will be no discussion. There is more information on this in your handout.

"So, I’ll call upon our first speaker, Dean Constable, for a summary of the Task Force Report."

2. TASK FORCE REPORT SUMMARY

Dean Robert Constable, Computing and Information Sciences: "We have an expert in wireless communication in the first row, so if something goes wrong we’ll turn it over to Steve right away. It’s gratifying to see such a large audience; I can guarantee you that this will be an interesting meeting and discussion. It takes place on the backdrop of a veritable information revolution. It’s a revolution that is transforming society and universities. We are here to inform the University’s response to this revolution. The information revolution is based on Computing and Information Sciences. I think that those universities who grasp this, understand it, and respond to it well, are going to thrive. The shockwave of impact that this will have on universities is happening quickly so we will have to respond quickly.

"In fact, we’ve actually been studying this issue since 1996, when the Research Futures Task Force looked at enabling areas for the university (advanced materials, genomics, and computing sciences.) There have actually been
three studies of the information sciences area since 1996: there was a digital futures study and now we're looking at the initial report of the Computing and Information Sciences Task Force. In addition to these faculty studies, there has been this administrative action, which you've seen a very succinct summary of, so I'm actually a dean. That was the first time I've been introduced as a dean, so I thank you. As my colleagues say, I'm a dean with a vision and a problem, or a virtual dean. Part of my job is to formulate a university vision for this area and, to that end, I've been talking to many groups of people and will be doing that for most of the semester. I've learned a great deal already from talking to many of you since July 1st. One thing is that this Task Force Report has been catalytic; it has stirred up a lot of discussion and that's exactly what it was intended to do.

"So, I want to make just two points with overheads (Appendix C, attached): one about the Task Force Report. Simply put, the final report is a work in progress. What you've seen so far is an initial report and it was intentionally left incomplete to stimulate discussion. The committee felt that it couldn't form details, this is not appropriate for such a committee. As the dialogue has been advancing, we've been incorporating new ideas already, fleshy out the initial report. Many of you have seen Dean Cooke's memo and a response from Charles Van Loan and me to that memo. Now you've seen more dialogue as new material gets posted on the Dean of the Faculty's Op-ed page. We expect a kind of progressive refinement of the concepts, part of which is going on right now. That's the first point and the second point is that the Task Force is not the only body that will be looking at this. I am assembling a board of representatives, a Computing and Information Sciences Advisory Board, which will help carry these ideas forward. This process involves a lot of talking with many of you. Finally, if I have time, I've heard many questions as I've gone around and talked to you, and the question that comes up all of the time is, 'Why is a new structure needed?' I thought we could advance the dialogue if I gave a quick summary of my answer to that. We want to coordinate activity around the university but across college, center, and department boundaries and increase the synergy of the activity that exists. We want to have a mechanism that can incubate new programs because just as the information revolution is incubating industries on a daily basis, it will, for sure, incubate new academic programs. We also want a mechanism to leverage the talent and resources here at the University now and we want to have a vehicle for attracting talent and funding to this enterprise. Finally, we need a mechanism for directing University investments to achieve these goals. I'll set the example and stop early. Thank you for your time."

Professor Shoemaker: "The next speaker will be Geri Gay, who is also on the Task Force."

Associate Professor Geri Gay, Communication (Professor Gay’s overheads are attached as Appendix D): "I kind of represent the Task Force in the social sciences and humanities and I thought I would talk about the interface with Computer Science and other computational sciences. First of all, I wanted to say that I think we’ll be missing tremendous opportunities for Cornell if we make this a Computer Science and Engineering issue. I think that this is much broader and that we need to have more inclusive discussion on this topic. It is very important and has ramifications across the University. I hope things don’t get lost by making it too narrow a discussion. I think that being that we’re at a university, this is student driven. We need to prepare students to meet the challenges of the information society and economy and to meet these challenges requires an interdisciplinary approach. We need to teach concepts beyond the mechanics of programming and tools.

"Words that kept coming up in the Task Force Report were ‘synergy’ and ‘fusion.’ We need to have an opportunity to develop strong programs from a Computer Science base and lend them to well established efforts around the university to put us in more of a leading spot. There are a number of courses that fall under ‘Computing and Information Sciences’ that go beyond traditional courses. There are courses in digital sciences, knowledge and information management, e-commerce, and business. A lot of these courses weren’t here a few years ago, there is a tremendous opportunity to build up old courses and new as well. Cognitive Psychology, Social Psychology, Law, and Science and Technology Studies all cut across many fields. Digital arts and culture, fine arts, visual arts, architecture and music do also. This is just a partial listing, some of the highlights of fields we can include in this. Bob was mentioning other schools and we’ve been looking at what other schools have been doing. A lot of them have the traditional CS centered approaches, such as CMU and Georgia Tech while others, like Berkeley and Michigan, are building on an information studies approach which is less traditional.

"As for the opportunity for Cornell, because of the pervasive nature of computing and information technology, we need to look beyond traditional departments and colleges. All units at Cornell benefit from having a cohesive unit put together, and I think that it makes it easier on our students. We spend a lot of time advising them on what courses they should take in Computer Sciences, Cognitive Studies, etc. I think that if we had something more cohesive it
would make it easier on us and provide a program for students to draw upon. Also, there is substantial new funding, particularly in Human and Social Systems and Computer Sciences. Finally, I’d like to say that in light of the competition from other universities in research opportunities and the demand for students, I think that we need to build a cohesive program that will provide an open, creative, and inclusive structure. In order for Cornell to remain competitive, I think we need to do this sooner than later. I think that a lot of places are moving on this and if we get caught on structures, we could lose momentum. I think we need to think about this in positive terms, as how we can best meet the demands, ‘we’ll be better off next year at this time.”

Professor Shoemaker: "Next we’ll have a response from the Computer Science Department by the Chair of the department, Charles Van Loan."

3. RESPONSE BY COMPUTER SCIENCE DEPARTMENT

Professor Charles Van Loan, Joseph C. Ford Professor of Engineering, and Chair, Computer Science (Professor Van Loan’s overheads are attached as Appendix E): "First, I’d like to thank Bob Cooke for organizing this forum, I think that it was a tremendous idea. (Applause) I’d like to start with what is to me the single biggest problem that I have as department chairman. I call it the Y3K problem. It’s simple. We admit about 3,000 students a year and I want to know what my department can do to make it the best 3,000 students possible. Now the simple, myopic answer would be to develop you own major, sit down, and shut up. But the question is more complicated than that. The CS major and most of our courses have tripled in size in the last ten years. This makes life difficult for the faculty. We all have teaching and researching ambitions; we’re happy to have a lot of CS majors, but our teaching and research suffers in an environment with this much change this quickly. The really shocking thing about that graph is that it is similar to the graph that tells us the number of seniors who are not well served both by our courses and by others on campus. To a certain extent, I accept that one graph is my problem and the other graph is our problem.

"What I’d like to do is give you a quick example as to why it’s our problem. We teach a database course. It’s very good for our majors, but it’s a sequence of four courses to get there. Suppose you’re in biosciences, interested in genomics, you need databases but you can’t spend that much time. How do we crack that problem? To me, this is where the FCI comes in. One way is to attract a fresh Ph.D. who is capable of teaching in this area. Such a person will have strong bioscience interest but will want some kind of connection with computer science. Or, there is a faculty member who is interested in moving in this direction but who needs space to develop a course. Our view of the FCI is to lend a faculty line to that home unit, details to be worked out. The idea is that, highly correlated with this line is the development of a course. We feel a very tight coupling between research and teaching to get these courses in front of our undergraduates. The idea is that these new courses and research developments become part of the ordinary way of doing business in these home departments. There’s been a lot of confusion and discussion as to where Computer Science, the department, fits in his setting. For example, who inhabits that top square? It’s not to be equated with the department of Computer Sciences. It’s physicists, engineers, biologists, social scientists and computer scientists. It’s not some sort of ‘King of the Mountain’ thing. The idea is for all of us to be involved doing our respective parts. The well-being of science, as I see it, depends on how well these three vertices interact. The more vibrant, the better. What I hope is that when high schoolers are taught about this research triangle, they think first of Cornell and then maybe later, Duke, and never of MIT.

"You may ask, ‘is there a hidden agenda? Is Computer Science up to something?’ You bet. Our aim is to take from this list the serious collaborations that we currently have on this campus and to lengthen the list. It makes the recruiting of faculty in our department easier and recruitment from other departments better. Let me end with this, the great thing about being at a research university is to watch those ideas move from ideas on a white board into grad courses if they have enough shape, into undergrad courses if they are fundamental enough, and maybe if we have enough fundamental courses we’ll talk about new concentrations and minors, and if the width is right and the fabric is strong enough, we’re talking about new majors. No one in this room knows where this is going in this area. The idea is to have a structure so that the University can track these developments gracefully. I feel that the FCI that we have envisioned does that."

Professor Shoemaker: "Thank you Charlie. Our next speaker will be Professor Steve Wicker from the department of Electrical Engineering."

4. COMMENTS BY REMAINING PANELISTS
Professor Stephen Wicker, Electrical Engineering (Professor Wicker’s overheads are attached as Appendix F): "I would also like to begin by thanking Dean Cooke for this opportunity to speak. I think that there are a lot of good things to be said for the Task Force Report, but they’ve only given me five minutes, so I’ll have to skip those. (Laughter) I don’t want to seem negative, but I’ve got five minutes, so let’s cut to the core.

"The first thing that struck me about this report is that, effectively, the Computer Science department is being removed from the College of Engineering. The reason that this struck me is because I feel it’s counter to what we see our peer institutions doing. When we look at MIT, Stanford, Illinois, Michigan, and Berkeley, they have either combined Computer Science and Electrical Engineering or they at least have the Computer Science department within the College of Engineering. If we take Stanford as an example, they have recently moved Computer Science back into its Engineering College. We’re doing something counter to what these folks are doing, so I’d like to know what our support for that is and I’d like to see more support for that counterintuitive move in the final Task Force Report.

"Now, another of my concerns with the Task Force Report is that its generation, the process it has followed, has been exclusive. I think that the people on the Task Force are outstanding people, experts in their fields, but they represent only a small slice of what I, and many others, consider to be ‘Information Science and Technology.’ If we look at the people who have not been involved in this process, it’s rather striking. As an electrical engineer, I note, of course, the College of Engineering. No member of the faculty of this college, outside of Computer Science, was consulted. But the list continues. ‘Information Science and Technology’ is a very broadly defined discipline; it includes so much more than just hardware and software. It goes to the impact of society, psychological impact, and many others. In the vast extent of this process, this revolution in information which the Task Force has cited, the people involved have not been involved in this process. We need a more inclusive process.

"A third item is that I fear what will happen if we continue down the road of exclusion. What we will end up doing is defining the success of ‘Information Science and Technology’ in very narrow terms; in terms of the success of a small department and in terms of a particular administrative structure. I think that’s a bad thing. We need to let success come up where it will -- be it within interactions between sociology and computer science, cognitive studies, whatever the case may be. When I look at the areas that have not been included, I’m worried that they may become marginalized in this new definition of success. I’ve listed a few that are from electrical engineering. These, as you might recognize, are fundamental to the access of new technologies, the internet, wireless systems &mdash; I apologize for quoting my own research area. This is just Electrical Engineering. I could have listed areas under Cognitive Studies, Mechanical Engineering, Civil Engineering, Sociology, the list is long. I fear that if we continue to be an exclusive definer of information technologies, we’re going to cause trouble for those areas.

"I have a few suggestions that I hope the Task Force will take to heart. First, and foremost, I’d like to suggest that we take a deep breath and slow down. This process has gone remarkably quickly; you know the timeline. A lot happened in a very short summer. I’d also like to suggest that we try to make this a more broad-based effort as quickly as possible. There are really two stages to this. First, I’d like to see faculty involved from all over the University and I’d like to see them involved on equal terms; the Computer Science Department has a very strong role to play but so do a lot of other departments as well. I’d also like to suggest to Dean Constable to create a steering committee. He’s mentioned this already and I think that it’s a great idea. I’d be really happy if the steering committee included people from all over the University and I’d like for that committee to have some power. In other words, I’d like to see people from other disciplines have the ability to say, 'this is the way we should go' and have it have some impact. Finally, I’d like to suggest that we take what we’re doing, and write up a document like the Task Force Report and send it to our peers. Send it to other groups like MIT, Berkeley, Stanford and find out what they think. We’ve done this in other efforts; we did that in the Duffield Hall effort in an effort to make Cornell a center for Advanced Materials. We got other people’s opinions and advice and we acted on it. I’d like to see us do the same thing with what we’re doing here today. Thanks."

Professor Shoemaker: "Our next speaker is Abby Cohn from the Department of Linguistics."

Associate Professor Abby Cohn, Chair, Linguistics (Professor Cohn’s overheads are attached as Appendix G): "First, the vision put forward in the Task Force Report is an important one, for obvious reasons both in terms of the directions that academic research is taking and the increasing role of computing and information science in all facets of our daily lives. The view put forth in the report parallels our own plans in Linguistics to make an appointment in
computational linguistics to add strength to the existing computational linguistics program in the Computer Science department.

"Not only does such computational work strengthen the results obtainable through more traditional methods by explicitly testing models, it also has the potential to reshape our discipline-specific approaches. For example, statistical approaches are widely used in engineering solutions to problems such as speech recognition. More recently, these statistical approaches, often rejected as 'non-linguistic,' are proving to be very useful in offering a better understanding of some facets of linguistic knowledge, such as the lexicon.

"The report proposes that new interdisciplinary research initiatives should be developed in parallel to broader, more integrated course offerings and this is also very important. I strongly endorse the view in the report that there needs to be a much wider range of approaches to how computing is taught, better tailored to particular academic goals. As suggested by the report, those initiatives for which collaborative efforts are already underway should be pursued. I would also add that emphasis should be given to areas that address theoretically interesting issues of the nature of computing.

"A prime candidate (which is barely mentioned in the initial report) is Cognitive Studies. This is an already existing cross-departmental, cross-college program, focusing on 'the nature and representation of knowledge'. Computer Science is one of the constituent departments and in addition to the group already in Computer Science working on artificial intelligence, there are numerous research efforts now ongoing at Cornell developing computational models of various facets of human knowledge, language, and behavior including new initiatives in computational neuroscience.

"This points to a procedural issue. With the exception of Bob Constable, who clearly wears many hats on the Task Force, Cognitive Studies is not represented. Representation on the task force is limited in a number of surprising ways. This leads to the question of what is needed to move forward. Bob Constable mentioned in his remarks the idea of establishing a faculty advisory committee. I strongly endorse this suggestion. Since events have moved so quickly, we have already in some sense moved beyond the task force. Such a faculty advisory committee with genuine decision-making power and better representation of both Arts & Sciences, and Engineering, is needed right away.

"In terms of structure, I would advocate that we should have one which is as flexible as possible, while making the fewest changes to existing organization. Wholly locating an academic department in this new structure at the outset prejudices the ways in which this structure might evolve. The evolution of the new structure should be an organic one, with the possibility for reevaluation. Perhaps more important than the structure is the availability of resources and the willingness to collaborate. The importance of new resources cannot be overstated. If this is set up as a zero sum game, the necessary collaboration cannot be expected to emerge. We must take very seriously the need for additional endowment to support this initiative. This is essential not only for new faculty lines, but also to make widely available the necessary computational resources and tools. The disparities of computational facilities and resources across the campus are enormous and this will have to be overcome, with those of us in more impoverished areas being brought up to speed.

"In the Department of Linguistics, in discussions about computational linguistics, we have found that those institutions where real interdisciplinary initiatives have flourished have well-funded centers providing the context and funding. In order to make a strong appointment, we need to be able to offer access to computational facilities currently unavailable in our own department. The kind of leveraging of resources laid out in the Computer Science Department response is promising. At least at the outset, if such interdisciplinary initiatives are seen as taking resources away from core disciplinary efforts, there is bound to be resistance. Over time, as the initiatives take hold, resources will naturally shift.

"The bottom line is that in order to move forward with these all-important new directions in computing and information science, we need constructive incentives to collaborate, access to new resources, and goodwill."

Professor Shoemaker: "Our last panel statement will come from Stephen Pope, who is from the Department of Mechanical and Aerospace Engineering."
Professor Stephen Pope, Sibley College Professor of Mechanical Engineering (Professor Pope’s overheads are attached as Appendix H): "Like most of the people I’ve spoken to about this report, I enthusiastically support the broad vision of the report in developing a campus-wide organization as a focus for computation and information. Having said that, I'll focus my remarks on the things that I know most about, which are computational science and engineering. Given that there appears to be broad agreement on the vision, I think it's very important that we all understand the same things in the words. In particular, that we all have the same understanding of what computing is. The word 'computing' and related words appear many times throughout the Task Force document and the work that is done on the campus with computers is very varied. It goes from development of concept and theories to development of general tools to development of tools of particular applications and then the use of those tools in particular applications. I think that different people include different things when they talk about 'computing.' If we are going to have a campus-wide effort in computing and information sciences, I think it is essential that we have a broad definition of 'computing' and that it certainly includes these things, which is a short list of all possibilities.

"The breadth is something that needs to be emphasized and if we look at computational science and engineering, we see that this is already broad. If we look at the people who have been directors of the Theory Center, in any capacity, we see that they have come from Physics, Electrical Engineering, Mechanical and Aerospace Engineering, Mathematics, Computer Science, and Civil and Environmental Engineering. All of these people have also been leaders in the forefront of computational science and engineering, yet only one of them, Tom Coleman, comes from a department that has the word 'computer' in its name.

"Computational engineering is also strong. We can try to measure that strength in terms of full-time equivalent faculty doing computational engineering and I estimate that in the College of Engineering, departments with the word 'engineering' in their names have about 48 FTE faculty doing computation engineering and about 5 in Computer Science. I'm sure that we can quibble over numbers, but a few conclusions will remain. Computational engineering is very strong, it's already on the campus, and it clear where the center of that activity is.

"So, if we have a broad definition of computing that I think we need to have, we then need to answer the question of 'who owns this computing thing?' It seems clear to many of us that this is far too broad to be owned by any one department and it needs to be owned by all of the faculty who are going to be involved in this initiative. Maybe we think that we agree to that, but I don't think that we do. In the Task Force Report, for example, it is interesting to see that experts in computing are a disjoint set from researchers and scholars in Computer Science. (Laughter)

"Let me move on to making some comments on implementation. In his colloquium that the Computer Science Department convened this semester, Dean Constable said, 'If we do this right, we'll have a chance to move Cornell higher, into the top five universities.' I agree with him and I'm sure that we all hope that this will happen. A partial list of what we will need to achieve this is resources. It seems that that there is a commitment and a willingness all around to make these resources available and to develop these resources. This is essential to promote collaboration and cause development. The next thing that we need is an FCI structure that gives ownership to all of the FCI faculty so that everybody involved feels that they are in this faculty on an equal basis. For this to succeed, the broad support for the FCI has to be in place before the FCI is created.

"Well, those comments were prefaced by, 'If we do it right'. Well, are we doing it right? We are all familiar with the events to date, so I won't go over them. In contrast, what do we need to do from now on? We need for the process to reflect the breadth of computing across campus. The structure that is developed has to be conducive to collaborations and the process should also develop a climate that is conducive to collaborations. We also have to engender a sense of ownership for all of the FCI faculty.

"If we have the possibility of doing it right, there's also the possibility that we won't do it right, and I think that it is appropriate to point out the danger here. This could go wrong in a number of ways. One way that it could go wrong is that a large group of computational scientists and engineers would not see FCI as its intellectual home and would develop its own focus for computing. Then, the separation between Computer Science that started this summer would be completed. No one who I have spoken to in Engineering, in computer science, and elsewhere, wants that to happen, but we need to change the direction in which we are going if we want to avoid that eventuality. Thank you." (Applause)

5. QUESTIONS AND COMMENTS FROM THE AUDIENCE
Professor Shoemaker: "Okay, go ahead."

Professor Anil Nerode, Goldwin Smith Professor of Mathematics: "Let me start out by saying that the Computer Science Department has never been a department in the College of Engineering. I should know because I and two friends set it up in 1964 with the charter in which the faculty was in both schools and the budget evenly divided. In 1987, Dean Seznec, who was a French Literature professor, put the budget in Engineering. He didn’t intend to put the department in there, and it was never changed. He did it to avoid handling it since he knew nothing about science. I felt that was an error at the time and I feel that now we’re only restoring what we had before. The department flourished without any help from Electrical Engineering during the first few years and I say that with absolutely no lack of understanding of when Juris Hartmanis set the department up. The joint sponsorship was absolutely essential and it worked fine. It was an accident that the budget ended up in one college. Originally, I wanted it to be a university-wide department simply because we knew, even then 35 years ago, that it would spread its tentacles around the university. I am in support of this kind of change. I see no injury to Engineering; it wasn’t injured as we improved it from a zero CS department to number five, it won’t be injured now. Thank you." (Applause)

Professor Shoemaker: "Thank you. Please everyone, remember to give your name and department. Joe?"

Professor Joseph Ballantyne, Electrical Engineering: "I just wanted to make a brief statement. If it’s true that Computer Science does not own the word ‘computing,’ then it is ten times more true that they do not own the word ‘information.’ I would like to say that in the statement from Dean Constable and Professor Van Loan the statement was made that, ‘a large FCI membership would add force to the FCI dean’s intellectual leadership on the campus.’ This is to me a red flag. It seems to me to strengthen vague feelings that I have had for some time that the CS Department is strongly hierarchical and that the FCI would follow suit. My most vivid, firsthand experience with the FCI dean was about a year ago at a large Engineering College faculty meeting called to address the construction of Duffield Hall, which is to provide laboratories for the pursuit of nanoscale science, including research on advanced technologies for future computers. In that meeting, and in times since, the now FCI dean was strongly opposed to the construction of Duffield and in the meeting made a statement to the effect that the proposed activities in Duffield represented a ‘smoke-stack industry,’ which had no place on the University campus. Cornell has a strong culture of collaboration in many areas."

Professor Shoemaker: "Joe, you’re over time."

Professor Ballantyne: "I have a statement, it will be posted."

Professor Shoemaker: "Okay. Did you want someone to respond to that? Would one of the panelists respond to that? Bob Constable?"

Professor Constable: "Well, this is not a meeting about Duffield, so I guess I’d rather not respond."

Professor Shoemaker: "Okay. Do we have other questions or statements from the audience? Yes?"

Professor David Shalloway, Greater Philadelphia Professor in Biological Sciences, and Chair, Molecular Biology and Genetics: "I can’t speak to the issue having to do with Engineering, but I would say that one thing I find exciting about the proposal is its focus on words like ‘collaborative’ and ‘interdisciplinary.’ A problem that we in Molecular Biology face, as I’m sure other disciplines do, is that we’ve looked at how to hire and tenure young faculty in interdisciplinary areas. The obstacles of hiring a faculty member who crosses the boundary between molecular biology and computer science are really quite formidable under a standard disciplinary system. So it’s a unique and exciting idea and if it works, its virtue is that it would give us a vehicle to direct the growth of our University by hiring bright, young people. That’s an exciting thing for me."

Professor Shoemaker: "I think I’ll ask Bob Constable and Steve Pope to respond to that."

Professor Pope: "I don’t have a response to that."

Dean Constable: "Well, I fully agree with that notion. I think that this concept is going to be very attractive to young faculty, especially those who find themselves between computer science and another discipline. They want to have the association with the broad computer science community and yet they want to also be in their domain. Here, this
structure gives them a chance to do both of those things. Indeed, many of the ideas in the report emerged out of case studies like that. How do you recruit a certain kind of person? We know from the experience that electrical engineering and chemistry have both recruited with computer science. I think that this is a proven method of bringing very talented people on board, especially in this day and age where so many people are interested in computing. It’s also applicable, as Geri Gay said, to students. Many students don’t find their home in the current structures and this gives us the chance to build widely appealing programs."

Professor Shoemaker: "Next question?"

Professor William Arms, Computer Science: "I recently joined the Computer Science Department, though I’ve never considered myself a computer scientist. I’ve always said that I do computing, not computer science. My current area is digital libraries, a new and interesting area. Let me suggest a few things that are needed if interdisciplinary work is to succeed, particularly in new fields. The first is that unusual people must find homes that welcome them; we must not be seen as square pegs in round holes. This is particularly important for people at the beginning of their careers, looking for promotion and tenure. The second thing is that we need to be thought of as areas that have evolved in both research and teaching. The model of interdisciplinary research centers is not suitable for many of these research areas. I think that the next thing, maybe the most important of all, is an understanding that new areas emerge from below. It is unlikely that panels, task forces, deans, and provosts are going to be the first to recognize new and interesting areas and there must be ways for new things to come up from below and there must be new ways for things to die and not be ossified when they turn out not to be a part of the long-term future." (Applause)

Professor Shoemaker: "Next question? It would be nice to have more questions."

Associate Professor Michael Shapiro, Communication: "I intend to do that. In reading the Task Force Report, I saw a lot of hand waving passed things like Cognitive Science, but I didn’t really see a central role for it. A number of panelists have raised that issue and I’m wondering what will be done for that? How are we going to include things like cognitive sciences, social sciences, and other areas that do have a central interest?"

Professor Shoemaker: "To whom are you addressing the question?"

Professor Shapiro: "I don’t know, whoever has the power."

Professor Shoemaker: "Okay, then Geri and Bob, if you could both respond."

Dean Constable: "Well, I don’t have any resources so does that mean that I don’t have any power? I am very keen on Cognitive Studies. I was on the executive committee when it was founded, I’ve been a contributing member all along, and I was representing it on the Task Force, as well as Computer Science. I think that this structure will really help focus attention and facilitate things like what Abby Cohn was talking about, things like joint hiring between Linguistics and Computer Science or Psychology and Computer Science. Indeed, I would say that because Computer Science, Linguistics, Psychology, and Philosophy all rub shoulders together in that program, already there is evidence of this effect. Psychology just hired Shimon Adelman, who is a computer scientist with strong interests in psychology. This has opened a bridge between our two departments. Both departments were extremely enthusiastic about that appointment. The same thing happened between Electrical Engineering and Computer Science, and I was a little sad to see that this wasn’t emphasized more. We’ve taken an extremely active role in helping Electrical Engineering build up in computer engineering and information technology. The Dean of Engineering was very keen on that and we were very keen on that. One reason maybe that there wasn’t such representation between Electrical Engineering and Computer Science is because the default assumption is that, of course, computer engineering and information technology and computer science are going to continue to move along together, that was a given. The problem was how to reach out to areas like Cognitive Studies and Digital Arts and Culture, areas that weren’t in such close proximity before."

Professor Shoemaker: "Geri or Abby, did you want to respond to this? No, okay, next question?"

Associate Professor Bruce Lewenstein, Communication and Science and Technology Studies: "I am from a department in the Ag School and a department in the Arts College, so I speak as someone who, on a daily basis, tries to cope with cross-college and cross-endowed/statutory lines. The question I have is if any of the structures that are
envisioned can cope with the need to make it easier for our students to cross these boundaries in effective ways? I’ve spent the last week worrying about 6-digit course numbers so that students on both sides can get credit for courses. That’s tied to another broader concern over the range of things in the report. There seem to be more areas that can be included. I teach a class on the sociology of cyberspace and the impact of communications technologies, social science courses which are humanistically oriented where I’m not depending on computational power for the aspect that I’m interested in. I’d like to hear how the structures that are envisioned might address these concerns."

Professor Shoemaker: "Do I have a willing panelist? Okay, Bob."

Dean Constable: "I can address part of that question because Dean Lund and I have been talking about just this problem, how we can collaborate and how is it possible to move resources across statutory and endowed — it’s a pretty complicated thing to do. We had a discussion on that. We know ways in which resources can flow. The value of this new structure is that this dialogue is taking place now. We’re trying to figure that out and we know that we can do it in some cases. I can also comment that in Computer Science we used to have a course on Computers and Societies which we are no longer able to teach because the student demand in other areas is so overwhelming. This now gives us an opportunity to cross-list a course like that. Again, we’ve been in regular contact with the Science and Technology Center to try and do such things. We actually talked about a joint hire this year, and I think that there will be opportunities down the road for something like that. We have to bear in mind that we can’t give birth to this whole enterprise all at once — it will be an incremental process. By being involved in this process as department chairman, I can see how this new structure will expedite those processes that have been going on for a long time."

Professor Shoemaker: "Steve Wicker."

Professor Wicker: "I’d like to add a comment to that. To the extent that this process creates some means by which we can focus money on interactive disciplines without a whole lot of things in the way, I think it will be a success. As Bob mentioned, there has been a lot of collaboration between CS and EE and there are other areas throughout the university that have been successful producing wonderful results. Cognitive Studies is a great example. If this process means that we’re going to bring funding and support in an efficient way to these places, fantastic. I think we’re just debating the means in which it takes place."

Professor Shoemaker: "Okay, next question."

Professor David Caughey, Mechanical and Aerospace Engineering: "I’m sorry, this is more of a plea than a question. I’ve got about thirty years of experience in computational engineering, I served as acting director of the Theory Center in the year in which we presented the first five-year renewal proposal to the NSF, which was successful, and I co-authored with Jim Liggett from Civil Engineering the first electronic textbook for teaching an upper-level engineering course anywhere in the world. I strongly agree with, at least my interpretation of, the vision of the Task Force in its interim report, namely the need to provide resources for computational and information sciences and their applications at Cornell. I also agree with Bob Cooke’s statement that he is ‘not willing to accept unexamined the assumption that the leadership for this thrust should necessarily, or even largely, come from the Computer Science faculty’ and that ‘better linkages are what this University needs.’ In my view, the composition of the Task Force and its failure to bring together or even to consult with significant groupings of faculty having interests and expertise in the areas of computational and information science have resulted in a vision that is much too narrow. It results in an underappreciation of the role of the computer as a tool and an overemphasis on the computer as an object of study. We’ve heard from the faculty of Electrical Engineering with regard to the failure of the Task Force to appreciate the role of a number of key technologies in computing and information science. The same criticism can be made from the viewpoint of computational science and engineering, the overwhelming majority of which the activity in the Engineering college, as Steve Pope showed, takes place outside of the Department of Computer Science. That being said, I want to reiterate my support for a University-wide initiative in this area. I hope that the members of the Task Force, the President, the Provost, and the new Dean will take the time to find and implement structures that will enhance our ability to work together toward this goal, rather than to create the unnecessary divisiveness that has been a result of the process thus far." (Applause)

Professor Shoemaker: "Do you have a question? Does any panelist want to respond?"
Professor Gay: "In the Task Force, and I don’t think this came across in the report, we really tried to differentiate
between teaching about computing and using computing in your work and in research. That is one of the dividing
areas, there is the student and the research need. I think it kind of feels like we might be leaving out some other
things like using digitalization and other kinds of tools in the work."

Professor Shoemaker: "Any other comments? Steve Pope?"

Professor Pope: "One of Dave’s comments was about putting in place a structure. One suggestion that I would hope
would be considered, obviously all of this has to be discussed at great length, would be to pattern a governing body
after the original Theory Center executive committee as a governing body for the FCI. The way the executive
committee of the Theory Center worked was that there was an election of Theory Center members, four members of
the executive committee. This committee was chaired by the Vice-President for Research at that time, and he also
appointed members to that committee if the disciplinary balance was not right. I think that a governing body of that
form, broadly based, would address some of the concerns that have been expressed."

Professor Shoemaker: "Next question."

Professor John Guckenheimer, Mathematics: "I’d like to ask a question. I’ve heard all of the panelists who are not
from the Computer Science Department make pleas for broadening the process and it seems to me that what is
happening here is that we are talking past each other and one thing that I would like to focus upon and comment
upon is the remark that Charlie Van Loan made that the FCI would be loaning positions to other departments. The
sense that has come to me, so far, is that the Computer Science Department has been characterized as the core of the
FCI, which sets up a situation in which the impression that I believe a lot of us are getting is that the proposed
structure will be one in which with resources will be placed in the hands of computer scientists and then dished out to
the rest of us. Perhaps Charlie would like to respond as well as the panel members about that."

Professor Shoemaker: "Charlie Van Loan?"

Professor Van Loan: "Is it legal?"

Professor Shoemaker, "Yes, executive decision. You have one minute. Here’s a microphone."

Professor Van Loan: "Bob Cooke pointed out the centralization thing, that people feel CS wants to control the
information destiny of everybody. I don’t see that in the terms that our goal is not to draw the talent out of the home
departments, but to get the talent there so that it stays there and to deliver these courses in the traditions of the home
unit. I think that Dean Constable has an appropriate committee that advises him in some way about where the
resources are spent. I think that’s testimony enough that it’s not under CS control. The composition of that committee
is crucial, and I agree that it should span the space of all the players. I think if it’s done intelligently then I don’t
think one can look at the whole operation and say that CS is controlling the show. We definitely belong in there, side
by side with other people. I don’t think that our presence there is a statement that we want to take over."

Professor Wicker: "I think that you hit the nail on the head with your question. I think that there is a fundamental
concern about placing Computer Science at the center, the core, of this new administrative structure and it’s not
really a matter of trust &mdash; I hope that’s clear from what I’ve said &mdash; I think computer scientists are
great people. Some of my best friends are computer scientists. (Laughter) It’s a matter of singling out a small group
of faculty, no matter how wonderful they may be, and saying that these are the people from whom resources will
flow. They may make wonderful decisions, but it creates an impression that I think is incorrect, mainly that
Computer Science defines the information revolution. I think that Electrical Engineering, Computer Science,
Statistics, and Sociology should all be in the same boat. It’s great that there will be some sort of structure that will
feed funding to key areas that can collaborate in neat, new ways. I think that’s wonderful. The mistake is to center
the effort on one group."

Professor Shoemaker: "Steve Pope?"

Professor Pope: "Well the position in which we are in the discussion is certainly the key issue. Hopefully we can get
beyond the key issue. One of the examples that Charlie gave was to maybe use FCI funds to hire someone jointly
between CS and some other so-called home unit or department. I think what we need to consider is to use FCI funds to hire someone jointly between Civil Engineering and Physics. I think at the moment, the faculty confidence in the structure is such that it would happen consistently and that the collaboration would be handled evenly to the former mentioned.

Dean Constable: "Well, I’ve mentioned several times that there will be this advisory committee and it certainly won’t be a committee of 10 computer scientists and two outsiders. We’re thinking of something like three computer scientists and eight to nine other people. So it’s going to be a balanced structure. Before putting it together, there is going to be a lot of talking done to see how we might get started and to look for a model. Steve proposed a new one just now and I’m hoping that we’ll get more ideas from this discussion."

Professor Shoemaker: "Okay, next question."

Professor Frank Moon, Joseph C. Ford Professor of Engineering: "I have a comment and a question. One is since the President and the Provost are here, a lot of the tension that you hear is derived from the use of the word ‘enabling’ and the use of this troika of reductionist, scientific view of the world has had a negative effect on this University in declaring winners and losers. I have heard members of the Computer Science department say, ‘Well, we are a part of the three major thrusts’ and I think that this has been a problem on campus, not just with this issue but with others. Knowledge is not reductionist and this has caused a problem. My question is why in the Task Force report was a center not considered in the same way as Material Science? Materials is a discipline that involves many disciplines from the University — from medicine, human ecology, and physics — and that has always worked without Material Science in the Engineering College being considered a center. It has brought the University great distinction. In the future we see areas such as energy and the environment or biomedical engineering; will we create new colleges for that everytime some new science or technical problem comes along. So, why was the decision made to form another college as opposed to something like a center? Thank you."

Dean Constable: "That’s probably the second most frequently asked question. The answers I’ve heard go like this, and the Task Force discussed them in these terms. We need an organization where there is primary focus on education. The centers typically focus on research and get their funding from outside the University. This we hope to be a program funded by the University, and affiliated with several centers, certainly the Theory Center, the Center for Programming and Computer Graphics, the Center for Cognitive Studies, but it’s primary mission is education and especially at the undergraduate level. I know of no centers where that is the primary mission. It’s also not the way to attract undergraduates. I don’t think that they come here, principally for the Theory Center. It is an attraction but it’s not as attractive as a cross-cutting unit, such as one we are considering. It’s also a problem of what our competition is doing and they are upping the ante. The competition is thinking of broad, educational programs."

Professor Cohn: "We also need to separate the question of the location of the department of Computer Science from other issues of what an appropriate structure would be and addressing the second point. I think we have a number of good models on campus. Think for a moment about the Einaudi Center for International Studies, which serves as an umbrella organization for a number of departments cutting across the University. It has funding both from the University and outside the University. Think about programs we have — such as the area studies programs that have both teaching and research missions — very clearly they run academic programs that parallel and integrate teaching and research in the ways that the Task Force has suggested is very important. I think we should think creatively and not get stuck on these labels and I think we should separate the location of the department of Computer Science from these other questions."

Dean Constable: "What was the center that you mentioned?"

Professor Cohn: "That was the Einaudi Center for International Studies."

Dean Constable: "That’s CIS."

Professor Cohn: "Right."

Dean Constable: "The other CIS. (Laughter)
Professor Shoemaker: "Did anyone else want to respond? Alright, we’ll go to the next question, but I want to remind everyone that it is now after 5:30, so we will open the floor to questions from faculty and non-faculty."

Professor Andrew Ramage, History of Art: "I’m sort of the minder of the Archaeology Program as well as a professor in History of Art and, in both of those functions, I’m more of a user than a producer, but I see some opportunities for encouraging the producers by being an informed user. I would like to ask some of the panel a question a bit off of that point. How would one deal with the numbers of interested faculty? I see a large number here today and it seems that the FCI would be something of a virtual college &mdash; to give them a bit of their own medicine &mdash; (Laughter) but even so, if only half the people in here thought they wanted to be members in some way, how would one deal with that?"

Professor Shoemaker: "So the question is that if there are a lot of faculty who want to be involved in Computing and Information Science how are we going to deal with all of these faculty?"

Professor Gay: "I do have a list of courses on my website that relate to this area. It’s four pages of small print."

Professor Ramage: "I imagine that there will be a lot more."

Professor Gay: "Right, so I think we have to start with a core to consolidate and pull this together with a core group that Bob was mentioning and linking up. We’ve heard a lot about the exclusionary process of this Task Force, and I don’t think it has been. I think a number of us have tried to pull others in to talk about including and different kinds of structures to make this work. I think it’s going to be more of formal and informal affiliations. I think we have to look at activities at other schools, such as University of Michigan. We need to see what their structures are and how they put them together, as well as what their core courses and tangential courses were."

Dean Constable: "I can give you my own estimates of what I think will happen. I, like you, think that there will be a large interest in the area, perhaps as many as 200 people affiliated with the FCI. I don’t think there’s any way we can fund that many people, but I don’t know &mdash; is Hunter here? (Laughter) I was thinking that we would have to start slowly in regard to funding. We can distinguish between funded faculty and unfunded."

Professor Shoemaker: "Next question."

Assistant Professor Dean Krikorian, Communication: "Speaking as someone who is new here, I heard the grumblings of something going on and that’s part of the reason why I’m here. On the other hand, more pragmatically, my training is as an electrical engineer and I worked as an electrical engineer for six years. I’m just curious if, through the FCI, I will be able to find new ways and work with other electrical engineers as conduits of the FCI?"

Professor Shoemaker: "Professor Gay?"

Professor Gay: "Dean, as an untenured professor in Communication, maybe . . ."

Professor Wicker: "I think the question you’re asking is are there possibilities for electrical engineers and communications people to get together in the new framework, perhaps separate from other areas? I hope so. I would think that given the environment and all of the interest in what we’re doing here, the environment or collaboration, whatever happens, should be better at this University. I think that if we can force this process to a point where collaboration across this University in which all forms of information sciences are covered, then yes, I certainly hope so."

Professor Shoemaker: "Professor Pope."

Professor Pope: "If I could just make the point that I hope that the FCI will be successful not just for new activities and small activities. There are long-standing large activities that lack focus. I’m thinking of numerical methods. Anyone who does scientific or engineering computation is heavily involved in numerical methods and there are some fine numerical methods courses on campus but as long as I’ve been here, 18 years, there has not been a focus or a coherent set of courses in numerical methods. I think one of the things the FCI can create is a focus for people with like interests in many different departments to come together and put together a coherent set of courses that will be cross-listed or something."
Professor Shoemaker: "Next question?"

Associate Professor David Delchamps, Electrical Engineering: "I’m not sure whether my question is answerable by the panel or even the Task Force, it might be a question for Day Hall. I hope it’s legal. Dean Cooke may have to rule on it."

Professor Shoemaker: "As long as it’s only a minute long."

Professor Delchamps: "Absolutely. Is there an intellectual and/or academic reason, not for the creation of the FCI &emdash; which I think is a great idea or for the appointment of a Dean of the FCI which I also think is a good idea &emdash; but for the massive, unorthodox structural changes that have occurred this summer? The faculty of Computer Science has been made, essentially, a gatekeeper for faculty that we’re hoping will bootstrap itself together and I’m wondering how that process is going to occur given the fact that Computer Science faculty will sit on Engineering College tenure committees but not all engineers will sit on FCI tenure committees? A less charitable interpretation of the administrative structure would be that Computer Science is trying to have their cake and eat ours too. (Laughter) This is from someone who considers himself an information scientist who would probably be a natural candidate for one of these academic appointments."

Professor Shoemaker: "So your question is about the future administrative structures, so I think that’s legal."

Professor Delchamps: "No, it’s about whether there is an intellectual or academic rationale not for creating a faculty or appointing a Dean, but for going through the massive and very unusual administrative restructuring."

Professor Shoemaker: "I think that to interpret that question as saying how are things going to function and how are things going to function in our academic setting is legal, so I will refer it to the panel. Who would like to answer that? We’ll start with Bob Constable."

Dean Constable: "Well, I don’t characterize these changes as massive because I don’t accept the notion, as Anil Nerode pointed out, of Computer Science being removed from any structure. We’re not removed from Engineering; we’re continuing our programs, the CS faculty is listed under Engineering, and we serve on college committees, just as we’ve always been listed as faculty under Arts and Sciences and we have a major program there and serve on committees there. Academically, nothing was done, save this tenure issue, but I didn’t understand your tenure question because the procedure would certainly be that ad hoc committees would be formed outside of Computer Sciences, just as now, drawn from Arts and Sciences and Engineering or possibly CALS. I don’t know why engineers wouldn’t be sitting on these committees, they sit on them now, they’ll sit on them in the future. The existing committees also draw people, even chairs of Engineering promotion committees, from other colleges. I think that the situation is quite the same and equitable as before. These procedures are also still being discussed. It hasn’t been decided how they will go. I don’t see the bias there and I haven’t known of any time that it has been brought up."

Professor Shoemaker: "Steve Wicker."

Professor Wicker: "Well, I hate to respond to an electrical engineer question, I’ll look a little biased, but I would like to amplify a little of what Dave is saying in response to what Dean Constable just said. I appreciate what the Dean has said and hope that he is a good and forgiving person (Laughter), but what Dave is referring to is that the administrative control of Computer Science has been taken from the College of Engineering and invested in a new structure. The management of the budget, tenure, hiring, and promotion have been taken from the College of Engineering, and I think that qualifies as a substantial administrative change. I realize that a lot is still up in the air, but it’s pretty clear that those three changes have already occurred."

Dean Constable: "But I don’t think it’s fair to call that removing Computer Science from Engineering. There is so much left that it’s not an accurate characterization."

Professor Wicker: "Point taken."

Professor Shoemaker: "Well, maybe we’ll move onto the next question."
Professor Terence Fine, Electrical Engineering: "I speak not for CAPP, because CAPP deals only with vision and organizational issues. . ."

Professor Shoemaker: "Could you explain what CAPP is?"

Professor Fine: "It is the Committee on Academic Programs and Policies. . ."

Professor Shoemaker: "Which is part of the Faculty Senate."

Professor Fine: "That’s not out of my minute, Chris. My issue is one of process and the processes that have been followed, which I think have been very radical. Attempts have been made to minimize this after the fact, within the fact, and at the moment, but it’s far from done. I really address this to the President and the Provost. This is not a question for the panel. What were you thinking when you did make a massive change in the organization of the college in the summer? Summer for us is dead of night (Laughter). It’s when we are all doing other things. Then we have to ask repeatedly for an explanation for this. Finally, one was forthcoming that talked about this being a tentative move, not a permanent move, so I assume that we’re still talking in the framework of tentative procedures. I think that talking about tenure management is serious. The fox has been put in charge of the henhouse; the man who was in charge of the department is now the Dean of the department, he will make committee assignments. Of course there will be people from other departments, but I don’t think that it will be as clean or as simple as that. I kind of wondered what you were thinking when you did this without faculty involvement? I hope that we will see clear explanations in the future and I hope we see the end of this kind of procedure. A somewhat rhetorical question for the President and the Provost." (Applause)

Professor Shoemaker: "Well, that is one of the questions that is off-limits. It’s described in the written handout that you got. The Dean of the Faculty will address this but at a later time. Do I have another question?"

Professor Stedinger, Civil and Environmental Engineering: "When I read the Task Force report, it listed many wonderful things that might happen in terms of new courses that could be developed and new research that could be done and when I thought about all of those issues, I didn’t see a single one that couldn’t be done with much less trauma by working with the Theory Center, which is already doing many of the things listed under research or developing a program, center, or just coordinating with departments to offer the educational initiatives that were proposed. I really think that if we want to accomplish those goals, we should not work on radically changing the organization of the University and how lines flow to people, we should leave those things the way they function well and instead focus on actually doing the things that ought to be done that can be done effectively and immediately if we want to. Thank you."

Professor Shoemaker: "Did you want somebody to respond to that?"

Professor Stedinger: "Sure." (Laughter)

Professor Shoemaker: "Do we have any volunteers?"

Professor Gay: "I don’t think we are doing things well. I don’t think that things are well coordinated for the students. We’ve been doing studies in the past couple of years, asking students what they would like to see for a curriculum and we’re not meeting or preparing students for an information age in any kind of a cohesive fashion. That’s what I was trying to address in my remarks that, at least from the academic or student driven part of this report. I really think that we could serve this clientele much better than we are at this point."

Dean Constable: "I’d like to comment on that from the same perspective as Gerri. You’re seeing it from the point of view of the Engineering College, where, as Steve pointed out, there are 48 faculty doing computational science. There’s a lot of activity there, but if you look around the University, there aren’t enough coherent programs. We saw this in Computer Science, people coming to us asking for courses XYZ. There is not enough representation in the Arts College or in CALS and the business school. There are needs beyond Engineering. If you look at a program like Digital Libraries, which is a connection between academic departments and the library, some of that connection is research oriented and it ought to have a course on an instructional component. There’s no forum or structure for that and yet we have resources that could be marshaled. In fact, even now without resources, we could coordinate
resources to get something accomplished. So when you take the broader view of the University, it doesn't look so good as it does in Engineering."

Professor Shoemaker: "Steve Pope?"

Professor Pope: "I just want to respond to a small point in Bob's response. Am I the only one who doesn't think that engineering is a subset of science? Bob said that I said that there were 48 faculty in Engineering doing computational science. I didn't say that. I said they were doing computational engineering. Now I have to say that there is a difference between engineering and science and the Theory Center carefully called itself, at least initially, the Center for Theory and Simulation in Science and Engineering. I'd really like to see the word 'engineering' reappear in these documents."

Professor Shoemaker: "But your point is that there are more computational scientists in addition to the computational engineers."

Professor Pope: "No, my point is that there is a distinction between engineering and science. Engineering is not in the college of Arts & Sciences."

Dean Constable: "So I should have said 'computational engineering and computational science.'"

Professor Pope: "Some engineering is engineering science and then there is no need to make a distinction between computational engineering and computational science; but some engineering is not like science, very different things are done."

Professor Shoemaker: "Do we have another question?"

Rama Hoetzlein, student: "I'm a dual degree student of Computer Science and Fine Arts. It seems to me that one of the emerging concepts of digital technologies is the idea that structures are made and broken and processes flow through those structures. In other words, the structure may come and go but the process that we're trying to develop is the thing to keep in mind. Applied to the FCI, I think that if we focus on those processes &mdash; the main goals of the FCI being education and research &mdash; then the structures, the relationship between the various departments will unfold much more naturally. In that respect, the goals of the FCI are education. My question is in what ways are the other half of the processes, the students, participating in the early development stages of the FCI and how that will occur?"

Professor Gay: "We were doing a number of studies or surveys with students over the last five years in classes, such as Dan Huttenlocher's CS classes and Communication classes to see what kinds of things we should be developing. We are hoping to add students to the next round, which is the November report. They have been involved &mdash; we've been looking at a lot of focus groups trying to find out what people want from the curriculum."

Professor Shoemaker: "Next question?"

Professor Michael Kelley, Electrical Engineering, and Associate Dean, College of Engineering: "One of the things that I've heard out of the discussions is the great importance that the advisory panel would be to the future of this process and I'm quite concerned that the panel will be chosen to be made up of people who will benefit from the resource allocation that is maybe going on here and seems to be possibly happening. My question to the panel is if they share this concern, how can we proceed to ensure that this doesn't happen so this conflict of interest doesn't occur, and so that we can get the broad input to this evolving process that we need?"

Professor Shoemaker: "Bob Constable will respond and then if there are any other panelists who would like to respond we'll go to them."

Dean Constable: "It turns out that forming a representative advisory committee is a complicated and difficult problem and I've ended up talking to many constituencies. As you know, yesterday we spent two hours with the Engineering chairs and directors talking about this and I expect to be spending a lot more time talking about just this process. I'll be talking with the other Deans, the Provost, and the President to figure out how we go and start this. Many ideas have come up. One of them is to have a tentative committee, an interim planning committee that is very broad and
gives us input. Steve brought up the idea of having elected members. It's something that bears a lot of discussion and if anyone has any ideas I'd love to hear them. I can be reached by e-mail; the Task Force can also. This is a place where the rubber hits the road, so to speak, and there are extensive discussion &mdash; you watched that one yesterday, it went on and on, very productively. I'm going to have to repeat that kind of meeting over and over again, I think, before I understand it and before we get all of the input that is needed. I'd love to hear more suggestions on that topic."

Professor Shoemaker: "Steve Wicker." 

Professor Wicker: "Mike, as you know, one of my big interests is to see some sort of an executive committee formed. I like to call it an executive committee rather than an advisory body because it sounds like it has more power. The conflict of interest is a very real one. If we have people who are funded as a part of this executive committee, then they're going to have trouble sorting things out. We're all adults and we can do these things, but sometimes it's more difficult than at other times. I would like to see some set of rules that would indicate that if you're funded by the FCI it might not be appropriate that you're on the executive committee. There are a lot of people who want to be involved in information technology and science at this University who won't be funded initially by the FCI. As Bob mentioned, he does not have the resources he needs, so there will be a lot of available people with expertise who are willing to help who are not funded."

Professor Pope: "I've heard about two advisory committees and the Provost tells us that nothing has been set in place yet. In the memo from Charlie Van Loan and Bob Constable, we heard their vision of how the FCI would be and part of that vision mentioned an advisory committee &mdash; that's the first advisory committee I've heard of. The second committee I've heard of is the one that is now being formed. I think we need to be clear that there are two separate things being spoken about. I agree with Steve that when we get to the second stage, at least, then an executive committee would be appropriate. In the first stage, Bob mentioned a representative committee; we all want this to work and an important ingredient in making this work is that all the people interested in this activity feel that they are being appropriately represented. It's going to be very important how that committee is put together."

Professor Shoemaker: "Well, we've come to six o'clock so we're going to stop the questions at this point. You have the written handout and the bottom of the handout is a list of things that can be done. We encourage you to share your opinions with other people. You can send your opinions to Terry Fine or to be put on the web by the Dean of Faculty. There will be consideration of this issue at the October 13 meeting of the Faculty Senate and the Task Force Report will be issued around November 1st. We encourage you to continue to participate. I'd like to thank the panelists very much."

Adjourned 6 p.m.

Respectfully Submitted,

Kathleen Rasmussen, Associate Dean and Secretary of the University Faculty