

MINUTES OF THE UNIVERSITY FACULTY FORUM

ON BIOLOGICAL SCIENCES

October 21, 1998

J. Robert Cooke, Dean of the University Faculty: "I have a few procedural items to take care of first and then we can get underway. I'm Bob Cooke, Dean of the University Faculty, and I'll serve as moderator for the afternoon. Let me begin with a few comments about procedures and then a few introductions of persons who have been invited to share comments with the group. First thing, the all important one, is that we will adjourn no later than 6:00 p.m., which is a sacred and well-established faculty tradition. So we will wrap it up by then.

"Professor Bert Garza, who is also a Vice Provost, has been soliciting community input on behalf of the administration and will take five to fifteen minutes to summarize three options that he has gleaned from discussions with the stake-holders. Following that, there will be six members of the University Faculty who have been invited to share their considered opinions, although with only 24-hour notice with having the options in front of them, but a wealth of experience prior to that time. In alphabetical order the discussants, from left to right, are Elizabeth Earle, Professor and Chair of Plant Breeding; Robert Foote, the Jacob Gould Schurman Professor Emeritus of Animal Science; Ronald Hoy, Professor of Neurobiology and Behavior; Dominick Paolillo, Jr., Professor and Chair of Plant Biology; Barbara Peckarsky, Professor of Entomology; and Steven Slack, Henry and Mildred Uihlein Professor and Chair of Plant Pathology.

"Another note of procedure, Professor Garza has a flight to Europe that departs shortly after 6 o'clock and so he will be departing a few moments before the meeting adjourns. He wanted you to know that there was no political message in his departure.

"After all of the panelists have had up to five minutes to make their remarks, they will move to the front row of seats so they will be near the microphone in case you have questions for them. After that, we have at least two other persons that want to present other options and it seemed reasonable to give them first dibs on the floor so that you have all of the options in front of you before we open it up to general discussion. So we'll call on those two, and perhaps more, to be recognized first.

"For the benefit of the faculty who could not attend today, we are preparing a transcript of the minutes and they will appear on the web site. I mention this also to remind ourselves that intemperate remarks will also show up in that transcript, so be aware. So let's begin with Professor Garza with the overview presentation."

Professor Cutberto Garza, Nutritional Sciences, and Vice Provost: "Thank you, Dean Cooke. I'll try to be as brief as possible. You should have details in the handouts that were provided so that I will be having only to highlight some options on the overhead. Before beginning, I'd like to make very clear that all of these options represent the input of a variety of sources. They are presented, and I would ask you to look at these and others that are going to be presented, with several goals in mind, because in the end, making biology stronger depends primarily on who we're able to hire and who we promote. So as you look at these structures, make sure that the structures lend themselves to a greater or lesser degree to those mechanisms that would provide us the best faculty. They should provide us a mechanism to anticipate change in biology, because biology will be changing dramatically in the next few years and we should not have to go through 'torpor' anytime we have to make change. And third, they ought to promote collegiality among all of us. So I've tried to capture various options that hopefully will attempt to achieve all of those goals.

"I'm going to propose three options. A and B propose the elimination of the Division of Biological Sciences. Option C retains it. None of these options should be viewed as exclusive. One can take elements of all three, mix them up together, or come up with others that I have either failed to pick up on or that have just not been presented in the past. All of these options focus principally on the organizational structure of the Division. It's important that all of us acknowledge that in fact we need to look at the broader life sciences, and certainly it is our intent to look at additional programmatic and administrative options to further strengthen life sciences and the collegiality throughout the University.

"Option A follows closely the recommendation of the Task Force but omits establishing a research institute. As I have spoken to various groups in the University community, I could find very little support for that notion. There may be additional support that emanates as we consider it, but it has been omitted for that purpose. This would create new departments based to some extent on the current sections of the Division of Biological Sciences and offers the opportunity to explore new alignments. That's taken almost directly from the Task Force Report. The recommendations for the precise configurations of the departments is not given. The expectation would be that we would formulate another faculty group that could look at various options.

"The governing structures for these departments would be flexible and would depend on the departments that would emerge, with at least three options available to us. In one, the new departments would report to all colleges from which faculty lines and resources originate. A second option is that they would have to work with a 'lead dean' who would be charged to coordinate with other colleges that shared the responsibility for the newly created departments. Or third, that they report to a single dean because all faculty lines and resources derive from a single college.

"The administration of the department, regardless of the reporting mechanism, would follow the usual University models in hiring, promoting, etc., with the exception that none of the new departments would be permitted to offer an undergraduate major. We would retain under this option, and indeed under all options, a single undergraduate biology major under a Director of Undergraduate Studies who would be appointed by the Provost, and who would report directly to the Provost. A structure would be developed to ensure that the Director would have the necessary resources and authority to bring an undergraduate curriculum together. But he/she would be given an additional charge that that individual bring about the broader participation of basic biologists throughout the University into the undergraduate program. The Director would be advised by a curriculum committee, the composition of which is given in your handout. There would also be a committee appointed to advise the colleges in the area of basic biology. That would be both an internal and external committee or one committee composed of both internal and external reviewers. In either case, we would want to look at the structure and roles of such a committee once the program reviews that are now underway have been concluded because we may want to broaden the scope of that advising group. That outlines, very broadly, option A.

"Option B is, in some regards, a variety of Option A. It, too, eliminates the Division, but goes further in determining the departmental structure. These are two examples. One is that we would have a Department of Molecular, Cellular and Developmental Biology; the other department would be the Department of Organismic and Evolutionary Biology. A 'lead dean' would be appointed for both. The origins of faculty lines would not have to be different from what they presently are, but the Dean of the College of Arts and Sciences would be the 'lead dean' for the Department of Molecular, Cellular, and Developmental Biology, and the Dean of the College of Agriculture and Life Sciences would serve as the 'lead dean' for the Department of Organismic and Evolutionary Biology. Again, the administration of the departments would be the same with the exception that they, too, would not be permitted an individual undergraduate major. We would, therefore, retain a single undergraduate biology major. This is a much more college-focused

structure. The Director of Undergraduate Studies would report directly to the Deans of Agriculture and Life Sciences and Arts and Sciences rather than the Provost. Those Deans would then have the responsibility of assuring that the resources will be available for putting together such an undergraduate major and that they would bring forward as broad a representation of biologists as possible. Here again, the Director would be advised by a curriculum committee, the composition of which is outlined in your handout. Under this scheme, the Colleges would also be advised by a committee. This committee, however, would be appointed by the two Deans and here again, we would probably have to reassess the role and composition of those committees after the program reviews of the life sciences departments, currently underway, are completed.

"Option C retains the Division of Biological Sciences, but makes some fundamental changes in its organization and governance. The Director would be appointed by and report directly to the Provost. Existing sections would be reorganized into broader areas of scholarship. We would appoint three, or some number along those lines, Associate Directors that would be given the primary responsibility of looking after the interests of the entire Division, with secondary responsibilities for looking after narrower areas of scholarship. The Director here would be responsible for the allocation of all faculty lines and resources that would be assigned to him or her by the Provost, but would negotiate only with the Provost in determining the level of allocations of faculty lines and resources. Under this model, the discussions would occur between the Deans and the Provost as to what that allocation would be. This is to simplify the reporting structure so that the Director reports to and is assigned resources directly from the Provost's Office. In determining the allocation of faculty lines to specific areas of scholarship or making general commitments as to resources, the Director would be required to consult an advisory committee appointed by the Provost. The composition of that committee is outlined in your handout. Under this model, again, we retain the single undergraduate biology major. The Director of Biological Sciences would be responsible for enlisting the participation of basic biologists throughout the University. The Associate Director for Undergraduate Studies, assuming that there would be one under this model, again would be advised by a curriculum committee, of which the suggested composition is in your handout. And we would have the appointment of a committee to advise the Division of Biological Sciences; a suggested composition is outlined in your handout. And again, we would probably have to reassess both the role and composition of that group once the program review is completed."

Dean Cooke: "We will now go to the panelists with a maximum of five minutes per person. Professor Earle."

Elizabeth Earle, Professor and Chair of Plant Breeding: "I speak as a biologist in CALS who is not in the Division, although I participate in biological sciences teaching. My first comment is that administrative changes will not in themselves improve biological sciences at Cornell. It's worth noting that the faculty-driven Cornell Genomics Initiative, which almost everyone commends, was developed under the current administrative structure, which is now being criticized.

"That said, more faculty lines and resources would of course strengthen biology (as it would any discipline). If we are indeed weak in areas such as biochemistry and molecular biology, it is mostly because budget cuts have made it difficult to hire new faculty in emerging areas.

"The real question is where resources for expanding these areas will come from in a time of budget constraints. Just rearranging the flow of overhead won't be enough. So what other areas should shrink, and are they all within the division? At previous meetings, we were told that the current discussion is about the positions in the division, not all of biology at Cornell. The options presented are somewhat hazy about how these key issues will be decided.

"As to the specific options, a task force of faculty from within and outside the Division spent a great deal of

time studying the situation and concluded that eliminating the Division would be the best course. I find it hard to ignore their recommendation in favor of suggestions by outside scientists who spent only two days here and met with a limited selection of biologists. Rejecting the Task Force report may make it hard to persuade faculty to serve on such Task Forces in the future.

"If the Division is eliminated or altered, I'm not sure exactly how the sections in the Division would best be rearranged; however, separating molecular and organismal biology into different departments seems to go against the current trend of using molecular tools in studies of macroscopic questions. At any rate, faculty in the sections should be allowed as much choice as possible in their future alignments.

"To my mind, Option 3 will increase the barriers between biologists on campus and will widen the perceived gap between applied and basic work. A Division Director who reports directly to the Provost will not have the broader perspective of the Deans about what else is happening in biology at Cornell. This option also seems like a bad precedent in relation to other cross-college disciplines such as economics and social sciences. It feels like a move to weaken the Deans in favor of more central authority.

"Finally, all the attention being given to biology issues is likely to improve the situation (at least for a while), regardless of the type of reorganization done. In fact, even retaining the Division with more modest changes in reporting/advisory structures and/or faculty groupings might be quite a satisfactory outcome of the current discussions."

Dean Cooke: "Professor Foote."

Robert Foote, Jacob Gould Schurman Professor Emeritus of Animal Science: "My comments won't deal so much with specifics and perhaps I should mention that as an Emeritus professor, one wonders how far removed I am from the University scene, but I am here everyday. In fact, in the last five years since I've retired, I've published 60 peer reviewed papers and a book, helped undergraduate students, and have been involved in a variety of other activities. So I'm busier now than I ever was, it seems like. Anyway, that's just a little bit by way of background.

"When I responded very briefly to the request for responses, I had not read the reports, because I felt that as a retired person I should just concentrate on things that affected me, so that web page was based on not reading the report. But since then, I have read the report (as of last night) and agree and disagree with parts of both the report and the response.

"I want to make a couple of comments on the historical aspects because I was here before the Biology Division was established and went through the establishment of the Biology Division, and I remember how much uneasiness there was at the time that the Division of Biological Sciences was established. There were a lot of concerns, part of it simply was that each individual did not feel that all of their needs were being met by having an established Division. The fear was, I suppose, the fear that everyone has of losing a little turf in the process of establishing a Division that would be beneficial to so many people. I think that's unfortunate. Individually, many times we seek to get all we can for ourselves and we often forget how much we benefit from having a strong base from which we operate. And I often wonder how many times, as we start our day, that we give thanks for how much help we really have from being part of a Cornell community. Well anyway, that's enough on the historical because the campus did settle down and the Division of Biological Sciences did bear good fruit, something like 600 courses in an integrated curriculum offered by the many sections. I talked with undergraduate students, and they seem to be quite happy with the biology program; it has good faculty. The Explorations Program has received wide acclaim both here on the campus and nationwide. I certainly enjoy the undergraduates and honor students that come through the various programs. I've had Hughes scholars working and one thing I think I'm correct in noting is that the

Hughes Scholars program has now been granted here for the third time, and I think this is the only university in the United States that has had three consecutive awards, and that says something of the strength of this program.

"Now there are weaknesses; the report notes many. I agree with some, but I'm not close enough to it to really know which ones I should agree with or disagree with. But I know that there are some weaknesses. For example, recently I hosted a world-renowned cloning expert who gave a seminar here that was attended by the largest number of people that I've seen in the Morrison Hall seminar room in several years. There were a lot of students and some faculty. However, I did send out an e-mail and asked faculty who would like to talk specifically with Dr. Rogol while he was here and until I used a little coercion, there was not a single response. I went as far as the Biotech Building and I don't want to step on any toes, but I was told that no one in Biotechnology was interested in animals any larger than *Drosophila*. Well, there are excellent researchers there and I know that the work with *Drosophila* is very good, but we had worked in the past, for example, with Louie Marks, who was very helpful and other people who are very helpful, but there was a void that we felt in that area of the problems that we are working on.

"A couple of comments on the present status from my distant perspective is that the system has many good features. And the system, basically as it was formed, was a good one. I think that one of the problems, and I don't want to tread on toes, is the personality differences and the people in personality conflicts don't try as hard to make the system work. One of the administrative problems has been and always will be the fact that we have statutory and endowed units. That's a strength of the University but it also creates administrative problems. Certainly the system needs to be remodeled. I think some of it can be corrected by returning to some of the strengths that were in the original system. There's been some regression. I think that the original Director had quite a bit more clout; he was called a Director but he was also an Associate Dean. So we need to utilize past experience and new needs to upgrade the Division.

"What startled me was when I read in the report, 'We recommend that the Division be eliminated.' Well, mass media loves these headlines, 99% of which are misleading; and one would get the impression outside of the university that we were actually downgrading the biology program and certainly this is important and we wouldn't want that to happen. I would say that we have to remodel the present program promptly and be truthfully able to tell the world that Cornell is taking advantage of its current solid framework in redesigning the biology program to zoom into the 21st century. I also realize with present crunches that it's even more important, actually because there are not unlimited resources, to give as much as one takes. And I know that's not always easy, but that's very important to all the faculty."

Dean Cooke: "Thank you. Professor Hoy."

Professor Ronald Hoy, Neurobiology and Behavior: "I'm going to assume that everyone has a handout. Option A follows the Task Force Report, but more specifically, spells out the funding and reporting structure. In Option A, this maintains the status quo in that the new departments would still be negotiating with both Deans. It is widely believed that this structure has been a basic problem for the current Division, so this doesn't really solve anything.

"Option B designate a 'lead dean' for each department but this also perpetuates the current problem of ownership of lines and funding. So is it worth eliminating the current Division for a solution that does not address this basic problem?

"Option C would reassign faculty to a single college and it does address the ownership of resources problem. If the Division is to be eliminated to create separate departments, this proposition at least addresses the crucial problem and it could work.

"Both Options A and B separate the responsibility for undergraduate teaching programs from the departments and thus puts research priorities and undergraduate teaching priorities potentially in conflict and the danger is, of course, that the teaching mission might suffer.

"Option B is the most drastic proposal of all, and has the most potential for doing serious damage. It proposes collapsing all of the Division into two huge departments, Molecular, Cellular and Developmental Biology as one, and Organismic and Evolutionary Biology as the other. This is how Berkeley, famously or infamously, reorganized its Biology Department. Well, there are a number of problems with this one and let me just make a start. First, the mega-department of Molecular, Cellular and Developmental Biology would be put in the Arts and Sciences College and its 'lead dean' would be the Arts dean. But given the fundamental importance of molecular biology in genetics in the future of agriculture, it's inconceivable to me to imagine that my colleagues in CALS would find this palatable. Second, some of our sections are so integrated, they would be destroyed by this plan. An example is my own, NB&B, which does neuroscience, which spans the levels of biological organization from the molecular level to systems, to the population and evolutionary level. The NB&B faculty would have to choose between the two departments and it would lose itself in the process. In addition, many of my colleagues in the section are researchers right at the interface. How could we choose? Third, this option still does not address the problem or question of ownership lines, let alone the matter of resource distribution. It retains the problematic feature of a 'lead dean'. Only in this case, the 'lead dean' would not be responsible for huge departments comprised of faculty appointed both in Arts and CALS and the College of Veterinary Medicine. Finally, to make new organizations on paper and create new chains of command, it might seem to solve some problems, but the reality is that biologists do work within buildings that are organized functionally as defined by the present Division. So I'd like to know what the implications of Option B are for this hard fact.

"Let me end by just noting that both Options A and B have the potential to disrupt research programs and raise uncertainties about undergraduate teaching in biology. Much of the push to reorganize biology is from the widely acknowledged opinion that molecular biology has not thrived as well as we think that it should have in the past 10 to 15 years. But is there no other way to fix molecular biology than to dismantle the entire Division? Which, after all, does manage a few things well. I do note, though, that we have before us another option, a hybrid option from Cellular and Molecular Biology, the yellow sheet, and perhaps this would be a step in the right direction. Thank you."

Dean Cooke: "I should point out that there are some copies of the statements around. On the white sheets are the original three options; and there's a yellow sheet going around also. If you don't have it, raise your hand and perhaps someone will bring you a copy. Okay, the next one is Professor Paolillo."

Dominick Paolillo, Jr., Professor and Chair of Plant Biology: "The following comments represent my opinions and do not imply the endorsement of the entire faculty of my section.

"My statement of opinions consists of five parts. The first three are presented as commentaries on the options listed by the Vice Provost. The fourth deals with an administrative and academic matter of concern for each and all of the proposals, alike. The fifth part is my summary/conclusion based on the opinions expressed in the other parts.

"Option A. This proposal has the advantage of maintaining the participation of the colleges in each of the key areas of biological science. It also allows us to reorganize without destabilizing the present departmental administrative units. This arrangement will not curtail further reorganization of departments, but it allows for the consideration of more alternatives than would otherwise be possible because the units involved retain viable status during the negotiations. This alternative also allows for the fact that there is more than one logic of organization in biological sciences, and any unit may apply the logic appropriate to

its own area of study.

"The membership of the curriculum committee is poorly drafted in the present version of this option. The committee should represent each and every participating unit and the number of such units should not be prescribed at the start by the language of the proposal. The omission of a Research Institute requires reconsideration. The Institute was proposed as a mechanism for creating and pursuing research initiatives. The present Division of Biological Sciences might be considered more of a success if it had invested more resources in creating research initiatives.

"Option B. This proposal divides the colleges in terms of principal roles for the two recognized departments in the model. However there is no a priori reason to believe that either college has a lesser interest in either of the broad areas represented. The proposal divides organismal biology from molecular and cellular at a time when much of the organismal work is done at the cellular and molecular levels, and as we enter an era when the genomic approach promises to unite all levels of biology with the molecular in a way that has never been accomplished before. Administratively, proposal B seems simpler than A because of reporting at the level of the Deans rather than the Provost. There is no intrinsic reason why this level of reporting and generation of resources could not be applied equally well to Option A.

"Option C. This is a proposal for a Division with a strong director, with the elimination of the sections as departmental units. But the roles of associate directors are unclear, and effective leadership at this level seems less likely than entrepreneurial pursuit of resources. The proposal appears to make the Director responsible for the undergraduate program as well as all other business of the Division. In the other options, the undergraduate program appears to be a full time job in itself, and any director would require the appropriate associate director to succeed in this task. The drafting of the membership of the curriculum committee in this proposal has the same fault as in Option A.

"The administration espouses the goal of organizing all of biological sciences but there is a strong tendency to consider proposals that deal with the present faculty of the Division of Biological Sciences as a self-contained unit. Flexibility in the outcome is a requirement if the valid interests of the colleges in the interactions of their other units with these faculty are to be maintained. For example, it would be arbitrary to assert that any unit that participates in the biology major must also participate in a grand departmental merger.

"The question of pool size is particularly clear as a problem in Option B. If two units are to be formed, is it assumed that their membership will equal in number the membership of the present Sections of the Division? With a 'yes' answer to this question, the insularity of the Division takes on new meaning.

"Larger departmental administrative units are on the way, but the difference in logic in the organization of parts of biological sciences, the so-called vertical vs. horizontal organization of faculty units, prohibits a uniform treatment of all areas. Also, to insist on amalgamations for the sole purpose of obtaining units of larger size would place units of considerable strength in contexts where they will not flourish according to their merits.

"There is overwhelming support for Option C in my section. Although I see more stability in Option A as the two are currently drafted, Option C can be better crafted to assure transitional stability as well. Option C was discussed favorably at first by the Task Force on the structure of the Division of Biological Sciences, and eventually discarded. The administration must be aware that the option to strengthen the Division has been very popular among Division members at large, as is evidenced by their responses to the Task Force Report, and in direct communications to the Provost and the President."

Dean Cooke: "Professor Peckarsky."

Professor Barbara Peckarsky, Entomology: "My comments need to be qualified as well, as coming from a person who is a biological scientist who has spent twenty years here almost outside of the Division. So I can be considered one of the people who are referred to in this document as the 'biological scientists outside the Division'. I have not spoken in the last 24 hours to my entire department nor have we had adequate discussions about this matter as a whole, so I do not want my remarks to be considered those of the people in my department. The one thing that I would like to stress at first is that I see one of the major strengths of all three of these options, as written from the perspective of somebody outside the Division who does teach in the biological sciences. The major strength I see is in some coherent curriculum in the biological sciences being offered that is perhaps independent, or at least somewhat separate from, whatever other administrative unit that tends to be formed. This, as an outsider, gives those of us who really desire access to teaching in the biological sciences some opportunity to participate as faculty members in a biological sciences curriculum. It also seems to provide a more equitable allocation of resources to support courses that are taught in biological sciences. So I see this as a major element that should be retained in whatever option we choose. I'm not going to speak, as the other people have, specifically about Options A, B, and C, but I would like to pose a number of questions to end my participation.

"First of all, do we need some super-structure or some administrative umbrella in order to organize the biological sciences research faculty at Cornell? Does some super-structure actually facilitate interactions? It seemingly hasn't worked before, and if not, why not? It appears to me, from the outside, that the problem has really been a lack of resources and facilities available to facilitate interactions in order to provide coherence and to coordinate biological sciences. Those of us who want to collaborate with other biological scientists on campus do not need to be in the same administrative unit to do so and there are many cases in my department of people who collaborate with people in biological sciences even though we aren't under the same administrative umbrella. So I'm not sure that we need an administrative structure in order to facilitate interactions among biological scientists or to coordinate biological sciences, unless the whole is greater than the sum of the parts. In order for that to be the case, the Division has to have resources and it has to have facilities to support that type of interaction. I'm not sure that any of the plans propose to fix this problem if that is indeed a problem with the present structure.

"My other general questions are a little more broad and do relate to all three options. One of them has been brought up already, and that is that any innovation that we might make or any restructuring or reorganization is constrained by space and facilities that exist on campus. I don't know what plan exists in order for us to build new facilities or to work within present facilities. Clearly, if there aren't enough resources to facilitate programs among biological scientists and to build new buildings or to reshuffle everybody, who then reorganizes into different units?

"The second question is how do faculty lines get assigned? I wasn't here when the Division was formed, but I can imagine that it was quite an upheaval and I know that the choice was made by individuals as to whether they would join the Division and then choose a section or whether to stay in the extant departments. And the reason why I am not in the Biological Sciences Division is because my predecessor chose to stay in Entomology. So, by historical accident, that's where I am. That's the administrative unit that I'm in. But that doesn't change my program or my interests, it still enables me to do my work. So the question is whether individuals would have choice or whether historical lines would be followed?

"In terms of the biological sciences curriculum, what happens to the extant departments when courses get pulled out of those departments and inserted in a general biological sciences curriculum? I know that my department would be concerned about that. And then finally, the advisory committee that's part of all three of the plans proposes to function to promote coherence, I don't understand how that would work,

unless there is again, some provision for resources and facilities that would support that sort of structure."

Dean Cooke: "Professor Slack."

Steven Slack, Henry and Mildred Uihlein Professor of Plant Pathology: "I represent a department that is in the College of Agriculture and Life Sciences and outside the Division of Biological Sciences. The views I express, however, are my own. Further, I have not been part of the prior reviews.

"The past Task Force Report and the External Review Committee Report have been already discussed and viewpoints are consolidated in the three options that we are considering today. It is clear that one of these options or an edited version of one of these options will be selected as the governing model for the Division of Biological Sciences in the near future.

"Our Department has a deep interest in the outcome of this discussion, as we are ourselves a community of biologists, a position similar to other departments in the College of Agriculture and Life Sciences and other colleges.

"At the outset, I would like to reiterate, in edited form, some of the context points made by Professor William Fry last week. Firstly, the biological community at Cornell is both broad and deep, numbering some 500 faculty in multiple units and colleges. The diversity represented is a major strength of the University. Next, excellence in basic biology is a cornerstone to excellence in the life sciences. Excellence in basic biology is important to all of our efforts to attract outstanding graduate students and outstanding faculty. However, it is clear that the distinction between 'applied' and 'basic' biology is blurring and that the need for low fences and stronger bridges between basic biologists and life scientists is increasing. Lastly, major advances in biology increasingly are being made by investigators working in teams or at centers, which allows resources and efforts to be directed to a common purpose. The genomics initiative is a current example at Cornell. A structure that facilitates this capacity in the future seems desirable.

"Option A closely follows the recommendations of the Task Force, but omits the proposal for a Research Institute. This option promotes the reorganization of sections in the Division of Biological Sciences into departments which would be allowed to reorganize without destabilizing the current section structure and provides some flexibility in how that organizational structure will develop in the future. Organization of the undergraduate biology major will be centralized under a Director with resources and authority to carry out curriculum design and staffing. It does not provide a mechanism, however, for developing broad-based initiatives and teams, and it also does not impede the development of initiatives and teams.

"Option B is similar to Option A except that it appears to define where, in broad-scope, investments in the basic biological sciences will be made and in which college those investments will be made. In this model, the Director of Undergraduate Studies would operate in a similar manner to the current Director of the Division of Biological Sciences in reporting directly to the dean of CALS and Arts & Sciences.

"Option C advocates a strong centralized model in which faculty lines and resources would be assigned to the Director of a retained Division of Biological Sciences through the Provost's Office. This director would also be responsible for the undergraduate curriculum in biology

"In summary, of the options presented, the current Option A is most attractive to myself. Faculty lines and resources are congruent with current resources and would allow for a stronger faculty governance role in the realignment process and for maintenance of faculty interests and roles. It is also consistent with the Task Force Report recommendations, which follow a year-long study. If a modification of Options A and C were an option, however, I would find the retention of the current Division of Biological Sciences with a

stronger Director to be a model of interest. A primary concern with the current Option C is that it weakens the role of the two colleges with vested interests, CALS and Arts & Sciences, and that this proposal seems to suggest the establishment of another college. It is not clear what the long-term resource impact will be on CALS and Arts & Sciences, or how these resources will be transferred through the Provost's Office. Currently, CALS is one of the leading colleges of agriculture and life sciences, a position that should not be allowed to erode. A more direct role of the Deans of these two colleges might make this option more attractive. Furthermore, a definition of the role of the Associate Directors and how this will affect the internal organization of the Division of Biological Sciences would be desirable.

"In any of the models, special care to preserve low fences and stronger bridges between basic biologists and life scientists needs to be promoted now and in the future. Further, avenues for input by the life science departments in the biology curriculum needs to be provided."

Dean Cooke: "Let's thank our panel and invite them to move to the audience area, but near a microphone, in case anyone has a question subsequently directed to them. The Speaker is aware of at least one or two presentations from the floor of options and we will get those out first before we open for general discussion. We, for all remaining presentations, suggest three minutes as optimal and at the end of five minutes, the Speaker will intervene. Professor Ray Wu is recognized.

Professor Raymond Wu, Biochemistry, Molecular, and Cell Biology: "My name is Ray Wu, and I have been a faculty in the section of Biochemistry, Molecular, and Cell Biology at Cornell for 32 years. I came shortly after the Division of Biological Sciences was formed and I've known all of the Directors from Professor Morrison on. Since the Chairman and Associate Chairman of our section are both out of town, I was asked to present a new option.

"In principle we like Options A or B -- that is elimination of the Division -- which was recommended by the Task Force after many months of careful discussion. We have already heard Bert Garza's presentation of all of them. However, in the event that Option C is chosen, we wish to present Option D which is a hybrid between model A and C.

"In our opinion, macromolecular, cellular, and developmental biology at Cornell would be better served by a strong department that concentrates expertise in this broad area. With a knowledgeable department chairman as an advocate, and a caring 'lead dean' who sees the success of this department as a mission of his college, this central core of modern biology would thrive at Cornell and the whole University would benefit. At the same time, we're aware that a strengthened Division model will certainly help the undergraduate teaching efforts.

"To bring together these views, we would like to propose a 'hybrid model' for reorganization of biology. In this model, Biochemistry, Molecular and Cell Biology and those who wish to join us would form a new 'Department of Macromolecular, Cellular and Developmental Biology'. At the same time, a Division structure would be maintained presumably in a strengthened format for those who feel that this is the most suitable organization to nurture their research and teaching. It is obvious that the needs of the eight different sections of the Division are not the same, so I think that this will give everyone the choice of what they think is the best.

"It goes without saying that as before, the faculty in such a new BMCB Department would continue to participate fully in undergraduate teaching of the Division structure. We see no reason why the system of a unified biology major with different concentrations needs to be changed if we are a separate department. This was signed by 16 out of 18 members. Two members did not sign because they would like to see more detail on the changes before they commit themselves. Essentially, it is a vast majority which strongly favors

this option. Thank you."

Dean Cooke: "Does any other member of the faculty have an option to outline before opening the floor for general comments and questions? Okay, the floor is now open. The usual protocol is for you to please give your name and identify your affiliation, department, section, whatever, for the benefit of the person doing the transcription. You may also speak only once until all in the auditorium who wish to speak have been recognized. So use your time judiciously. The floor is open to anyone wishing to ask a question or make a statement. Amazing. Have I come to the right place? Anyone? Yes."

Professor Paul Feeny, Ecology and Systematics: "I'm speaking ahead of when I intended to, so I haven't fully organized my thoughts, but here goes. I came here from Oxford University about 32 years ago and I found the Division of Biological Sciences to be a breath of fresh air compared with the entrenched traditional programs that still exist at Oxford and indeed at many universities in the Western world. I was delighted to find that botanists and zoologists not only talked to each other, but they actually collaborate with one another, co-teach, and so on, which would be unthinkable at Oxford and at many other schools. At Oxford, also, as at many other schools, biochemistry was equally entrenched and hardly anyone could collaborate with anyone in biochemistry. So I was thrilled by the Division of Biological Sciences and very little has happened since I've been here that has diluted my enthusiasm for having biology under a single unified umbrella. We are all, at least conceptually, united by a belief in evolution.

"All of us deal with the processes and products of evolutionary biology and, as time goes by, collaboration between different branches of biology will only have increased. I myself am an ecologist and I spend most of my time doing plant chemistry. Some of my students have done molecular biology, others have done traditional systematics, others are involved in behavior, field ecology, or in chemical ecology. And many of my colleagues are similarly involved in a diverse range of disciplines within the subject. Teaching frequently involves guest lecturers from a number of different departments. In my case, they involve people from chemistry, plant breeding, entomology, the Boyce Thompson Institute, and so forth.

"So I think that my life here has flourished within the Division. I am convinced that my colleagues in Ecology and Systematics and in our building, Neurobiology and Behavior, have thrived in the Division. We collaborate well both within the Division and outside the Division. We are also well ranked nationally, both for our faculty and our graduate programs. So, it caused great dismay and surprise to me to find out that biochemists are unhappy with the Division. They, too, must see that more and more collaboration will be occurring between molecular biology and organismal biology. Why reinstitute a barrier, be it the same barrier that existed before the Division was formed, a barrier by forming two large departments, or by following the recommendation just proposed by Professor Wu?

"I am certainly sympathetic with the desire of biochemists and molecular cell biologists to get a unified, strong leadership that is dedicated to that particular enterprise that will have more direct access to the Development Office at Cornell, that would bring in resources and that would not be hampered, as they see it, by the rest of the Division. I am not convinced, however, that an organization cannot be constructed within the Division framework that would permit, for example, a Genomics Institute or a center from being created formally with its participants of either Division sections or departments or, indeed, of departments outside of the Division. Those faculty would be members of individual colleges, as they exist now, would have teaching responsibilities, but they would have a coherent center or an institute that is not incompatible provided that we have strong leadership in the Division with divisional structure.

"I think, finally, that the creation of two large departments, as one of the proposals would be a disaster. They would be unwieldy, they would be impersonal, and they would prevent faculty interaction. One would get cliques the moment we have departments of the size where we each know well what our colleagues are

doing. We have respect for what each other is doing. We have very little trouble agreeing on our priorities in hiring, both in terms of the subdiscipline and in the quality of the individuals to be hired. We have very personal interactions with our graduate students who we see as a unified cohort each year. They are known to all of us or most of us. And I also think that one of the things that we need to do more of is make joint appointments with people from outside the Division to the existing departments within the Division. If we have two huge departments, that would become increasingly difficult as to size. Thank you."

Dean Cooke: "If you have a strong voice, you may speak from where you are, if you prefer to use a microphone, there is one in the corner. Yes?"

Professor Jeffrey Doyle, Associate Director of the Bailey Hortorium: "I have a few comments that I posted to the Web earlier today and I'm just going to read a few of those, and not the entire thing. There are three areas in which the Division currently serves to unify the undergraduate aspects of the biology major and in all of those three areas, the Division model has proved to be tried and true in really helping. Even the Task Force and the outside review teams considered the current Division of Biological Sciences to have failed in one or more of its missions, acknowledged the great success of the undergraduate component of the Division. Many of the deficiencies of biology at Cornell have been blamed, with little empirical justification, on the structure of the Division. It seems only fair to apply similar logic in the other direction to attribute the great success of undergraduate biology at Cornell to the Division's structure. This would argue for extreme caution in eliminating the sheltering umbrella of the Division. Professor Howland's group, for example, has spoken of the erosion that might occur if we were to go to separate departmental units, even if we keep the major as it is now. It is also not clear from the wording of Options A and B how undergraduate research will be handled. However, in the time that Cornell takes to integrate research and teaching in a unified undergraduate experience it seems a giant step backwards to segregate the undergraduate biology program from the units in which research is being conducted as is the case in Options A and B. Thirdly, just as there is no mention of undergraduate research in the two models, there is no mention of advising, which in my opinion has been a key element in the acknowledged success of the undergraduate biology program. Presumably, some mechanism will be put in place to ensure that all biology majors continue to be advised, but even so, divorcing administrative and faculty units from an undergraduate program would only seem a hindrance to this. The current advising system relies on the willingness of faculty throughout the Division to advise students who, in many cases, fall outside of the research areas. This willingness would not be enhanced by eliminating the unifying Division. So for all of those reasons, it seems to me that some model in which there is a unifying Division force and not a segregation of a biology major from the individual faculty units is one that we should follow.

Dean Cooke: "Yes?"

Michelle Schaffer, Student Assembly: "My name is Michelle Schaffer, and I'm from the Undergraduate Student Assembly. I just wanted to bring up undergraduate student concerns. This is a copy of the ad we put in the Sun today alerting undergraduate biology majors that the Division will undergo changes soon. I'll just quote from it. 'It is currently unclear how the proposed changes will affect students once the Division is broken apart and each section of biology is divided into individual departments in Arts and Sciences and CALS as was recommended by the Task Force. How will discrepancies in the tuition for biology majors in Arts and Ag be addressed? Will students have the freedom to pursue a major in any section of Biological Sciences? And will the current policy of cross-listing of all the biology courses in both Arts and Ag be continued?' These are incredibly important concerns for both Arts and Ag undergraduate students, and I think that they need to be brought up and addressed by any of the models you bring forth. I analyzed the Task Force Report and I just want to mention something. This is a quote directly from the report. It said: 'Over time, sections which were intended to have permeable boundaries that would permit change, growth,

and collaboration have become departments that compete with one another for resources, seek support from the Director of the Division and from the college deans. Lines of communication are confused and confusing and decisions about what should be emphasized are made ad hoc. The result, no clear or consistently successful mechanisms for setting priorities and promoting excellence in basic biology.' My question is, these problems exist under the current structure, but they would be continued under the structure that the Task Force promotes. (applause) Thank you. Also, in the Report's appendix it mentions the real reason that the Division was created and it did flourish under Dr. Morrison's revision. I'll quote again: 'Much of the early success of the Division was attributed to the style of Dr. Morrison's administration. He reported to and developed a rapport with the Provost and the President. He was appointed as an Associate Dean, jointly by Arts & Sciences and Agriculture and Life Sciences. He had an excellent relationship with Frank Long, Vice President for Research.' My question is, it worked well in the beginning when the Division was first created. I personally have to believe that that unsolicited response to the Task Force Report is a good way to go and it follows the reasoning that the Division once was strong. Why not make it strong once again? And also, the undergraduate consideration follows along with this. So, if you have any questions, please feel free to contact me."

Dean Cooke: "Would someone like to respond to this? Bert?"

Vice Provost Garza: "I met with a group of undergraduates yesterday, and I want to publicly congratulate the life science faculty who mentor them. They are an outstanding group of students. If they were representative, Jeff, congratulations. There are major concerns among the undergraduates that these discussions are somehow going to have some very adverse effects on the teaching or tuition or similar structures. I tried to reassure them that, in fact, any option that was selected would maintain the current tuition structure in a single biology major. So that's not a concern. What we've tried to address are ways to increase the participation of life science faculty in the curriculum so that we would achieve two important goals: Find ways of decreasing class size in the first two years, and increasing the number of upper-class classes in biology, that is in the third and fourth year. Those are the sorts of changes that we're trying to incorporate into any of these options as opposed to any that would have adverse effects on the students' tuition."

Dean Cooke: "Anyone else wish to be recognized? Professor Howland? We have a about twenty minutes, maximum, remaining."

Professor Howard Howland, Neurobiology and Behavior: "I just want to make a few remarks. I think that problems with Options A and B have been pointed out a number of times, and I think that the inherent conflict between teaching and research that those options set up is key in the matter. I mostly want to say something about Option C. I want to thank Vice Provost Garza for finally bringing, in written form, as a proposal in front of us, this option. For a long time, we had only the Task Force Report and their ad hoc response. I do want to say that I'm cognizant of the great work that my colleagues put in on the Task Force Report. That's been mentioned. But now a lot of time has passed and a lot of other people have worked hard in thinking about this. So if we're going to give credit for effort then we should even the playing field.

"Now, there are a couple of very innovative things in Option C. One which I was very happy to find was the proposal that a significant proportion of indirect costs of the Division will revert to the Division of Biological Sciences. This gives significantly more power to the Director of the Division and significant control over the fate of the Division. The other quite innovative proposal was the one in appointing Assistant Directors who have primary allegiance to the Division. Now this is clearly aimed at trying to solve a problem that the Division never solved, namely, to make the barriers between the sections more permeable, and I think that's an admirable effort. But, folks, this is something that we want to look at carefully and craft carefully. This is not something that can be done in the 18-hour response time that we have right now. It is something

that should surely be investigated. It has much promise but its something we want to go into quite carefully if we do it. So those are the primary things I wanted to say."

Dean Cooke: "Yes?"

Carolyn Eberhard, Senior Lecturer, Plant Biology: "I have full-time responsibility for teaching, in Introductory Biology, in particular. We were not organized enough so that I can speak for all lecturers, so I'm speaking for myself. I want to endorse the analysis that Jeff Doyle posted on the Web earlier today. My position is enforced by several other lecturers in the Division. In Options A and B, there would be a Director of Undergraduate Studies, and the teaching function in that program would be separated from the research faculty, no matter how you slice it. This is a mistake, and it will be detrimental to the recruitment of research opportunity slots in the research labs to the Honors Research Program and to participation in Explorations, which is always looking for new faculty.

"Faculty advising, faculty staffing of the courses, and recruitment of TAs are all facets of the undergraduate program that are highly dependent on faculty generosity with their time and expertise that cannot be extracted by pressure. In other words, giving the Director of Undergraduate Studies the resources and authority to effect full department cooperation of the program will not necessarily achieve the desired result, and we've already experienced that, time and time again. Thus, I support retaining a central unit that continues to unite the teaching and research functions. Thank you."

Dean Cooke: "Yes?"

Antonie Blackler, Professor and Chair of Genetics and Development: "Like Bob Foote and Ray Wu, I was also present at the creation, and I have as much admiration for Bob Morrison as anyone on this campus. I shall be brief. The only reason I have gotten up and away from my fabrication of paper airplanes was that I was unaware that Ray Wu was going to present what is being billed as Option D. And if you look at Option D, the key paragraph as far as my section is concerned, is to bring together the various views, whatever they are, that 'We would like to present a hybrid model for the reorganization of Biology.' And what is being proposed is a pig of a department entitled, 'Macromolecular, Cellular, and Developmental Biology'. Now, Ray Wu is very careful to say that 16 out of 18 faculty members endorse proposal D. However, no faculty members from Genetics and Development have, in fact, endorsed proposal D, particularly with respect to developmental biology or to those parts of cellular biology that are fundamentally genetic in nature. My colleagues, in fact, have never spoken in a single voice on the issue of reorganization, but I think that I am correct in saying that the majority of them espouse proposal C, rather more than they espouse proposal D. Thank you."

Dean Cooke: "Was there someone in the same section who had something to add? Yes?"

Assistant Professor Kathleen Whitlock, Genetics and Development: "I want to echo what Tony Blackler just said. I am the 'D' in development in this proposal D and I am not in favor of proposal D, and we were never asked before this proposal was read today. But I wanted to make a comment, actually two. The first is back to what Ron Hoy had mentioned, which is that if we need to strengthen molecular biology, and I do do molecular biology, then we don't have to wreck the Division in order to do so. I think that the problem that comes up again and again as you sit here and listen to people talk is what one could look at as a worldwide problem, which is the allocation of resources. I think what we need to fix the problem with molecular biology is to increase the allocation of resources. And I think that this problem lies with the fact that the Deans pass the buck. We have a CALS dean and an endowed dean, and no one wants to commit money to the Division to help us with computers and support staff, etc., and that's caused the biochemistry, molecular, and cell people to want to join forces with genetics and development people because it's the

idea that might makes right. If we have a really big department, we command more resources. So I think that Option D is really not an option backed by Genetics and Development and I think that if we could somehow figure out how to allocate resources to molecular biology, then this problem wouldn't appear so awful and we could maintain the Division as it is. Thank you."

Dean Cooke: "Professor Walcott, Director of the Division, and then at the back after this."

Professor Charles Walcott, Neurobiology and Behavior, and Director of the Division of Biological Sciences: "I would like to make just a couple of remarks. First off, when Bob Morrison came in as Director of the Division, he had the great advantage of having a substantial pot of money from the Ford Foundation and from the National Institutes of Health to prime the pump and to establish positions. He then turned to the deans and he said, 'I'm willing to pay for positions for x years, if you'll pick it up thereafter,' and the result was an extraordinary flowering of biology on this campus. He was also an extraordinarily capable and skillful diplomat, which surely helped that process. At the moment, we find ourselves in the Division in the curious position of having considerable unity of outlook as to what we ought to do, which is to clearly strengthen cellular and molecular biology, biochemistry, and the like. But we're in the unfortunate position of not being very able to implement this because of the fact that we report to two colleges and the two colleges have the resources. They are the ultimate authority in determining how these matters are going to proceed. I think that for biology to flourish, we need to find some mechanism for bringing these colleges together and having each one of them realize that by investing in a unit of some sort encompassing biology, each college gains more than they are investing in this process. Therefore, some kind of council, perhaps as suggested by Peter Stein, in which the deans of the Colleges on the main campus, Arts and Sciences, Ag, and Vet, got together with perhaps a representative of the Medical School, perhaps with a representative of the Provost's Office, which would consider the allocation of resources allocated to the Division. This could, at the same time, give us some sort of coherence in the effort and some kind of reasonable level of support, and not have the colleges feel that they are losing control, which I think is the problem perceived in Option C."

Dean Cooke: "We have time for, at least, one more speaker."

Associate Professor Randy Wayne, Plant Biology: "Well, I wasn't aware that there was any problem with the Division until the Task Force told us. I happen to love being in the Division. I love the students and fellow faculty, and the subject of biology itself. When the Task Force presented the report to the Division, it seemed like it was speaking for some very small number of people, and not a majority. I asked Vicki Martin if she would take a vote from the faculty to see how much of the faculty would support the Task Force Report, and she refused. I asked the Provost at the Faculty Senate meeting to do the same thing -- to record a vote -- he also refused. I don't think there was ever wide-spread support for the Task Force Report. And it seems to me that we were really pretty happy before all this stuff started, and as soon as the central administration started interfering with biology, things got worse and worse. Just like Presidents ask when they run, 'Are you better off now than you were four years ago?' I don't think that we are better off now than we were before we started to do any of this, and I would really like to keep the Division absolutely as it is changing within the faculty that is there. I'll just end with a quote from the Provost when he answered Lisa Earle's question about tenure at the first meeting of the Faculty Senate. She asked him about the new tenure policy and he said, 'I thought everyone understood that it was a ruthless usurpation by the central administration of the faculty's prerogative.' I feel that's exactly what's going on."

Dean Cooke: "Anyone from this side of the room? Yes?"

Professor John Lis, Biochemistry, Molecular and Cell Biology: "Just a point of clarification in regard to Option D. I should add that the title of the new department was not fixed in stone. There was a parenthetic

statement in the original letter that pointed out that the title could be anything. We don't want to force Genetics and Development into this department. We welcome, of course, anyone who wishes to join us. I should also point out that we have on campus a number of departments that we interact with, and these are departments like chemistry and business. I do think that we talked about the interactions we have and I didn't realize that we go beyond biology and so I'm not so sure the department structure is such that will improve how we interact with some of these colleagues outside. We could probably interact as well with our fellow biologists."

Dean Cooke: "Anyone else? We have time for at least one more but I want to remind you that we will accept statements for the Web site in case you think of something after this meeting or didn't have enough time. Yes. We'll take two more."

Professor Charles Aquadro, Genetics and Development: "I'm in Genetics and Development and also hold a joint appointment in Ecology and Systematics. For me, the issue is not one of a new structure for promoting interactions or things like that. I think that the structures that we have and the interactions that many of us enjoy that have drawn us to come here and stay here are going to exist regardless of some of the various structures that exist. But rather the issue is one of decision making, one of assessing the priorities for basic sciences and for advocating the pursuit of those basic goals to enhance biological sciences. The point I want to particularly address is the issue that has been discussed several times of what's called a healthy tension of being part of both CALS and Arts & Sciences. I think that as far as the scientists go, the interactions would occur regardless, since we are here physically in Ithaca. I think that that tension has been healthy. But I think that at the administrative level, it's been a very unhealthy one because of the lack of ownership. We don't really belong to either fully so that the buck can always be passed onto the other side. And I think that it's a natural thing that one doesn't put the same level of commitment into something if it's partly somebody else's."

"There's this issue of basic and applied units and approaches and there are, in fact, fundamentally different resources, different goals, and different audiences to each of these areas we are trying to please. I myself am a basic scientist, but I'm also one who has collaborated extensively with a number of scientists on applied projects. I really value the applied projects that I've done and the applied colleagues in what are classically called 'applied' departments and so forth. But I also feel that the value that I have been able to bring to those collaborations has been because I have been a basic scientist functioning in a basic science unit. I honestly think that the healthy tension that can exist between the basic and applied units comes from having truly strong basic units that have basic units and applied units that have applied goals. I think that the genomics initiative, which was quoted by Lisa Earle, is a good example of where the initiation of activities and goals was a faculty grass-roots effort. The problem is not in getting people from diverse areas and interests together to come up with ideas; it has been how to implement those. In fact, we're seeing right now how implementing those goal and ideas is hitting a glass ceiling and has bogged down, particularly for those initiatives that expand the colleges."

"I don't see how either Options A or B will effectively address this problem. In the absence of putting all of basic biology in one college, with a goal of promoting the basic sciences, I really strongly agree with my other colleagues in Genetics and Development that Option C is the best option to promote basic sciences. Thank you."

Dean Cooke: "Next speaker? Three minutes max."

Assistant Professor Linda Nicholson, Biochemistry, Molecular and Cell Biology: "I can't say that I'm speaking for all of my colleagues, but I have spoken to several and I know that these sentiments are shared by others in my department. I have been here for four years, and in those four years, we have lost five section

members through retirement, through death, and two people chose to leave for other reasons. So we've shrunk just in the last four years that I've been here. We have hired two new fantastic people, so we're only down three. But we are down and that's the point. We've shrunk. And it hasn't been in just the last four years, this has been a trend in, I think, the last ten years. We feel that we are one voice in eight in the current sectional Division model and I think that of the proposals that you've looked at today and considered very carefully, several of them address that issue, that Biochemistry, Molecular and Cell Biology does need to be strengthened. There are various different mechanisms to do that and various different ways to do that here. I think that the important constraints that we all think are very important are that we need a strong advocate and a system that will be responsive to any sort of political pressures that we are able to apply. I think that one reason that I was attracted to this particular section was that its not full of politicians; they're actual scientists and they enjoy being in the lab. We have some problems in dealing with the type of system where you have to be political to obtain the types of resources you need to be strong. So, either we have to learn a lot or we need a better advocate. We feel that we need a direct link to the person in charge of resources. Pushing on a Director who is acting like a compressible fluid is not working. We need some sort of direct link to a person with the resources. I think that we all agree the advocacy, responsiveness, and a direct link are important constraints and that no matter what happens, these things should be considered. Thank you."

Dean Cooke: "We do intend to have a transcript of our session today posted to our Web site by noon on Monday. So if you want to replay what was said and think more deeply about it or have colleagues who could not be here, you could pass the word along. Let me end with a personal note of thanks for caring about the future of biology at Cornell."

Adjourned: 6:00 p.m.

Respectfully submitted,

Kathleen Rasmussen Associate Dean and Secretary of the University Faculty