I.-Introduction and Context

I want to discuss cross-college research collaborations (at the same institution) in connection with contemporary US general circumstances (in November, 2009) of a public research university (in my case, the University of Oklahoma, or “OU”). I’ll speak particularly from the viewpoint of the College of Arts and Sciences, the largest college on the Norman campus. I plan to discuss what some of the major issues are that arise at this type of institution and with this college at the present time in the US, and suggest some promising approaches for dealing with strategic planning. I believe that some of the issues I discuss present themselves at this particular institution and college, but are also relevant to a general type of situation, and so the discussion will be phrased both in terms of the particular locale and at times also the more general type of situation.

With OU, besides the OU-Norman campus, arguably the “main” campus, there is also a Health Sciences Center in Oklahoma City about twenty-five miles away (which includes a College of Public Health), and a smaller Tulsa campus, about one hundred twenty-five
miles from Norman, that includes College of Arts and Sciences faculty presence from some departments, as well as faculty and administrative structures from other OU-Norman colleges and the Health Sciences Center.

II.-Some Planning Issues

I have mentioned the major Health Sciences organizational structures to note the significant presence of a medical college research component to OU university research planning. One feature of university-wide strategic cross-college funded research planning is identifying some major foci that are shared across colleges and that are clearly promising for enhanced funded research efforts. The OU-Tulsa Medical School emphasis on community medicine (in recent years given extra impetus by a $50 million gift) also reasonably suggests that public health could be one unifying funded research dimension connecting the College of Arts and Sciences and the Health Sciences Center in both Oklahoma City and Tulsa. There is already other evidence of this, and both NIH and NSF are plausible continuing sources of research funding that could be cultivated in innovative ways for public health money, through projects connecting Arts and Sciences and Health Sciences Center faculty.

Consider, for example, the fledgling Water Institute at OU which focuses on securing support for improving provision of drinking water in emerging and less-economically-developed societies (e.g. in Africa, Asia, and Latin America). The Water Institute has been mostly centered in the College of Engineering at OU-Norman, but has potential for supportive collaboration with various College of Arts and Sciences researchers (in both natural science and social science departments), and with the Health Sciences Center.
III.-Broader Economic Conditions

Lately (for more than a year now), we obviously have had in the country and world an economic and financial crisis that is having an impact on all institutions, including public research universities. In response to this, as we all know, the federal government has done a lot of “stimulus” spending. Many, including the Nobel Prize winning economist Paul Krugman, think we need more stimulus spending, others (especially but not solely fiscal conservatives), think we need less. More or less everyone relevant understands these general circumstances up to a point. How long the currently increased economic activism of the US central government will continue, and how its involvement with public higher education will play out is harder to predict. One consequence of that is that the comparative advantages and disadvantages of various possible directions for public research universities are difficult to evaluate for strategic planning purposes.

IV.-Some OU Emphases

At OU, the president and other administrators have urged the faculty to consider working to obtain stimulus money, especially through funded research. This obviously applies more straightforwardly to some research areas than others. At the same time, we have had a transition at OU in the Office of the Vice-President for Research from one VPR to another. The new VPR has taken an activist approach coming in. He and the Vice President for Technology Development have worked together on this. Part of this approach involves assembling a group of administrators (including deans or associate deans) and certain faculty such as a finance professor in the Business College who works on energy markets. (The College of Business has not typically emphasized external research funding, except for a few exemplary faculty members).
That group assembled through the Office of the VPR has visited in Washington, DC to familiarize or re-familiarize itself with federal research granting agencies and their differing cultures. Those involved in the group are going subsequently to be meeting in various sub-groups to continue co-planning and communications efforts, not only to advance going after stimulus money, but to build or enhance longer-term relationships with granting agencies.

Of course, universities, like granting agencies, have their own (and many) cross-college culture issues. There is already a good deal of cross-college research collaboration at OU. In the College of Arts and Sciences, this takes many forms. For example, we have a Department of Botany and Microbiology that collaborates significantly with faculty in the College of Engineering as well as with a relatively new College of Earth and Energy. Some of the key faculty, (with respect to externally funded research), do some of their work in research centers that study environmental issues and secure some of their funding from the Department of Energy. For example, one faculty researcher works in the area of anaerobic bacteriology. Much of his research program is linked with the societal use of fossil fuels, in the sense that he studies bio-remediation strategies, and in some recent work has taken an interest in the strategic issues about certain bio-fuels in relation to potential bio-corrosion of the infrastructure that transports and would more extensively transport bio-fuels were there an expansion of use of such alternative energy sources. There is a contingent of faculty in Physics who also have established research funding relationships with the DOE, among other governmental agencies.
The University as a whole is pursuing a complex (some might say ambivalent) set of commitments about energy and the environment (including climate change issues among other considerations). Surely the areas of energy and environmental protection (now so often bracketed together in a politically and intellectually significant framework) are a second major focus for cross-college funded research collaboration at OU (as at many other research universities). (It should be added that the bracketing together of energy and environmental protection research, while very valid for some purposes, does not adequately capture all the types of research that could address environmental protection problems.) While the university is publically committed to using wind-power for its energy, there are also fossil-fuel industry loyalties reflected for example in the foundation of the College of Earth and Energy, and there are research funding habits in some of the faculty that reflect these more traditional loyalties. They will not soon disappear, nor is it desirable they should. What seems preferable is a combination of different approaches to energy/environmental issues. Oklahoma’s history as a state associated with energy provision is now cited by some as an advantage in addressing a more extensive range of options in energy. The “College of Atmospheric and Geographic Sciences” (including Meteorology and Geography) not long ago morphed out of what had been called the College of Geosciences previously. Meteorology (now “Atmospheric Sciences”), especially, was and is a very major player on the OU scene in funded research, and will be a very significant co-player as the College of Arts and Sciences develops its funded research programs. (This is one reason why the new VPR is a meteorologist). It should be noted that what has locally been called the Oklahoma Weather Center is actually a combined federal and state operation, including a federal presence as well as state-funded
units and activities. One example of funded research cross-college co-operation is activity by yet another faculty member in Botany-Microbiology (Arts and Sciences) who works on the biological and ecological impact of global climate change, notably in collaboration with Meteorology.

V. University Revenue, Funded Research, Undergraduate Tuition and Fees

While there is already cross-college funded research collaboration, clearly new economic circumstances are driving an increase in this. In some institutions, we in the Colleges of Arts and Sciences are likely in the immediate and longer-term future to learn a lot more about research done by our colleagues in other colleges, such as Engineering, Medicine, and others. Most likely, issues about dealing with merging cross-college research cultures will come increasingly to the fore.

There are a number of features of this situation that deserve further comment. There is likely to be a tendency at some institutions for research administration to take more of a centralized co-ordinative role than it has in the past. As part of this, there will also be issues about Colleges of Arts and Sciences, which besides their funded research activities, usually assume a large part of the undergraduate teaching duties for general education across the university and for many majors housed in the College of Arts and Sciences. There is also the resource reality that income from tuition and fees (particularly from undergraduates) is taking on increasing significance as a source of revenue for the overall institution (as at many comparable institutions). Reductions in state assistance further this. In contests for resources, it is unclear how funded research initiatives will fare for internal university investment and support, as well as fund-raising, in comparison with undergraduate instruction and related investments by the overall institution.
To be sure, some of the conflict (between investment for funded research and investment for undergraduate teaching and related revenues) can be softened (e.g., by stressing undergraduate participation in funded research as a way of attracting bright undergraduates), but it cannot be entirely eliminated. This is likely to play out differently depending (obviously) on which university you are considering, which college within the university you are talking about, and which areas within a college. It is liable to have an impact on centralized university spending and investment. To take an obvious example, there are limited resources, even if it is not all a zero sum game, and there are different courses of institutional emphasis in planning reflected in enhancing amenities to attract and retain paying undergraduates, and to offer the academic options, including something as basic as offering course sections needed by undergraduates to complete their degrees in a timely way (an increasingly widespread problem around the country, I read in the papers); as contrasted with building, enhancing, or simply maintaining and paying the debt associated with the funded research infrastructure needed to pursue some types of research funding.

VI.-Some Challenges for Graduate Education

Another area of interest is about graduate students. Some research universities are cutting their commitments to graduate students, at least in terms of numbers. The University of Texas at Austin plans to do so, and the University of Oklahoma intends to do so. I understand there is a similar move planned at the University of Michigan. How can this be reconciled with the more determined emphasis on funded research activity (including cross-college research collaboration) that is so often intertwined with graduate
education? Again, it is likely that the resolution of the conflict will play out differently in different universities, different colleges within the universities, and also in different areas of larger colleges such as Colleges of Arts and Sciences. Possibly, a greater proportion of graduate students will be those recruited in areas that require research assistants, rather than teaching assistants. This is not clear. But if there are more research collaborations across colleges, the types of graduate students recruited and the nature of their graduate education will unsurprisingly have to change, at least in those areas where the funded research entails cross-college collaboration. Curricular issues about the relationships between undergraduate and graduate instruction will arise. At the same time, there are signs, publicized by the Council of Graduate Schools, that graduate enrollment is on the rise in some institutions during this period! It is unclear what the administration at various universities will or should decide about their degree or type of emphasis on graduate education, within the College of Arts and Sciences or in any part of the university. One important aspect of this will be the connections between funded and other research activity and graduate education.

VII. - What Might be Missing from the Picture So Far? - Less Funded Research Areas

Finally, there is a huge issue I will mention in closing that I have not emphasized in these remarks. This is about not allowing the determined pursuit of research funding to subvert the extensive commitments to research and scholarship (much but certainly not all of it in the College of Arts and Sciences) that is not eligible for pursuit of big-money external funding. These areas include much of the humanities and even much of the social sciences. (To some extent, however, the social sciences, pursued in certain ways, such as energy-related economics, medical anthropology, etc., can team up very
profitably with natural science and engineering to pursue external research funding).

Without the less substantially fundable research and scholarship, nonetheless, there will be no university worthy of the name, and there would be losses to institutional reputation and ability to attract some students at least. It is too easy to imagine research, as well as undergraduate and graduate education slumping in these areas as universities cope with economic difficulties. Some of the possible slump might be averted by looking for ways for the social sciences and humanities to collaborate within the College of Arts and Sciences itself, and with other colleges outside of Arts and Sciences, in pursuing funded research opportunities. Possibly, collaborations with the College of Education might be rewarding for many such disciplines usually housed in Colleges of Arts and Sciences. Other professional education colleges might also be partners with the College of Arts and Sciences, not only on teaching and education projects, but also in funded research activity.

Another possibility is that as research and outreach find more blurring of the dichotomy between them, more collaboration between all disciplines in the College of Arts and Sciences (including social sciences and humanities departments) and the College of Continuing Education may profitably increase. Ideas about research expressing a commitment to community engagement, whether or not this is formalized by achieving the Carnegie classification, may take on more importance. This may also be linked with new strategies in fund-raising, as some potential donors may take an interest (consistent with appropriately formulated university goals) in research for community engagement.

VII-The College of Arts and Sciences and the College of Continuing Education
At OU, grants and contracts attributable to the College of Continuing Education are quite substantial, and promise to have the potential for even more funding, as we were reminded of when we from OU visited various federal agencies and offices in Washington, DC. Some of the Continuing Education potential is for research, some for delivery of educational services, and some a combination of the two, and the College of Arts and Sciences faculty has a major role in what the College of Continuing Education does. (Collaborations with the Department of Defense are among the linkages here, but by no means the only linkages). Rather than treating this as an activity sharply distinct from funded research, or as moonlighting by individual faculty, the university would do well to more fully integrate planning about this into its overall pursuit of external funding (whether for research or mixed research-and-educational activities).