RESEARCH: MAKING IT A BLIP ON

THE PUBLIC'S RADAR SCREEN

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Some Myths To Unload

There is an old proverb: the only person who really enjoys a change is a baby with a wet diaper.

I began my life at Kansas State University in 1981, when I joined the Division of Biology as a young assistant professor. The goals and expectations of my career were simple and well-defined: I would shape the young Kansas undergraduate in my classroom, and the citizens would be grateful. I would, through scholarship, publish in the best journals, and my path through the landmines of the academic landscape would be successful. In short, my future depended upon the classic linkage between the state/federal funding agencies and my success in attracting the resources to do my scholarship, coupled with my ability to transition that scholarship into creative experiences for the K-State graduate and undergraduate community. The contention here is that, in the past two decades, times have changed.

It is time to unload some myths that colored my early years as an assistant professor. As to the first myth∇the public perceives that science, *per se*, is always used to foster the public good. Examples of science-gone-awry, especially when compliance procedures were not observed, have made recent headlines. These are times when research should **not** be on the public's radar screen. As a corollary to this myth∇the University enjoys strong support for research and scholarship among the Kansas taxpayers. This "myth" has proven true in the past, and I am **not** yet willing to give it up. I sincerely hope that current initiatives demonstrate to our legislative community that Kansans continue in their resolve to support a strong university research base.

A second myth∇federally-funded research and development programs are a growth industry. In recent days, there are indications that the federal attitude toward human health research has warmed significantly. However, the indicators from 1970 to 1997 show that the total

federal sponsorship of the research endeavor, when viewed as a percentage of the total effort, has declined (Figure 1).

A third myth we must abandon∇Universities should never look to industry for funding to support scholarship. Many rationales have been used in the past to support this contention, such as, industry will not let us publish, and this would be suicide for our graduate students; and industry funding is tainted by preconceived notions of expected outcomes. In fact, however, protection practices for intellectual property are in place on our campuses, and partnerships between universities and industries (and their philanthropic foundations) can be vigorous. As the federal percentage of research sponsorship has declined during the past decades, corporate sponsorship has increased (Figure 2). The total FY 1998 sponsored research expenditures funded by industry were $2.4 billion, a 9% increase from that in FY 1997 (AUTM: *FY 98 Licensing Survey*).

A final myth that needs to be put to rest∇Universities, by themselves, can effectively place the blip of research on the public's radar screen. We are currently viewed by the public as our own special interest group. Unfortunately, this view extends to the legislature, and often to the Kansas Board of Regents. At a past Merrill Conference, an executive director of the Board noted that there was no effective mechanism to bring research issues before the Board. Happily, this has been changing.

Making it Happen: Universities in Partnership

There is an old proverb: "Nothing is impossible for the person who does not have to do it."

The current era has become the "information age." Information is now the currency of our economy, with informational advances touching the fabric of the Kansas agriculture, aviation, telecommunications, and biomedical industries. The Kansas universities should be, and are leading the charge to increase knowledge in these areas. Yet, how can we effectively take our message∇that university research deserves state-wide investment∇to the Kansas taxpayer? We take the message by building partnerships and having our partners help validate the message.

We encourage partnership between science research and science education. This is a potent alliance. K-12 educators have an impact on society. At Kansas State University, the Division of Biology currently has a $1.8 million grant from the Howard Hughes Medical Institute, which creates partnerships between biologists and budding young educators who wish to teach biology. This grant facilitates two-year experiences for science educators in their sophomore and junior years. The young educators receive hands-on opportunities to perform the scholarship of

science, to recognize its value, and to build a reservoir of knowledge that they will pass on with enthusiasm to their students, and in some way, to their students' parents. Likewise, the University of Kansas was recently awarded a special "cross-cutting" grant from the National Science Foundation. This was the first year that such grants were offered. Graduate students, who are studying the sciences at KU, will be placed in K-12 classrooms. We believe that by reaching the K-12 students, we also reach their parents.

A second potent partnership must be forged between the research universities and the governing bodies that oversee them. The Board of Regents has been charged with this responsibility, yet research and scholarship has taken a back seat to the education of the undergraduate masses. There are strategies that can help bridge this perceived gap between undergraduate education and research. The gap itself exists because of a misperception. We must emphasize that the best education occurs within a creative environment, and our brightest students learn by doing, not by listening. The organization of Named and Distinguished Professors has brought this concept to the Board's attention.

Finally, the universities must form partnerships with the economic communities, to emphasize and re-emphasize the importance of university research for the Kansas economy. The mainstream agricultural commodity groups in Kansas understand this and have been an historic voice for research at Kansas State University. Their voices, however, have been diminished by economic forces beyond their control∇yet their voices will rise within the next decade, if food-production estimates are accurate.

The Kansas Technology Enterprise Corporation (KTEC) has been beneficial as an economic voice urging the research universities to showcase strategic technologies supported by their campuses. From the perspective of Kansas State University, we have a potent mandate to continue our efforts on several fronts. In order to address our economic needs, we can continue to fuse the study of agriculture with exciting advances in biotechnology and with research on the devastating effects of drought and disease. Because our state ranks high in red meat production and we value food safety and security, we have a mandate to continue university research on production processes and security. In a world where animal diseases are also diseases that can affect humans, university research is vital. The KTEC message, from the Kansas State perspective, emphasizes the importance of agricultural biotechnology to our state.

Summary

There is an old proverb: “The sight of the gallows clears the mind.”

Is it a good thing or a bad thing, that university research is a blip on the public’s radar screen? As an individual, I would like to turn off the surrounding radar, but this is a wrong-based view at best. As an administrator who is concerned about others, I want that radar turned on. University research, like every other form of human endeavor, must be a public concern. In an information age, how can this concern be anything but positive? Only if we opt for the wrong partners.

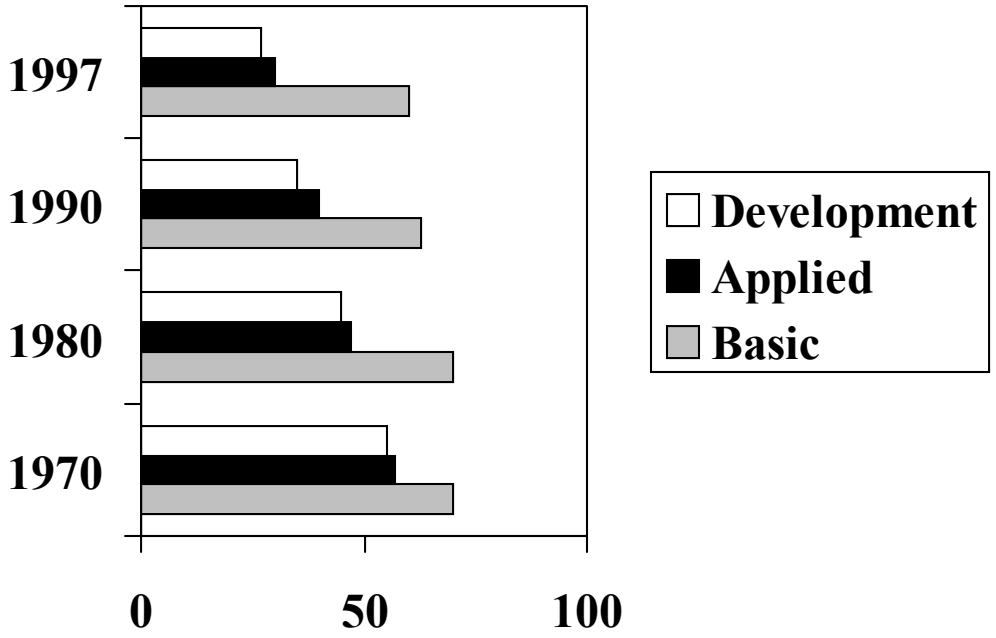

Figure 1. The federally-funded share (percentage) of the total U.S. funding of basic research, applied research, and development. From the National Science Foundation, *Science and Engineering Indicators.*

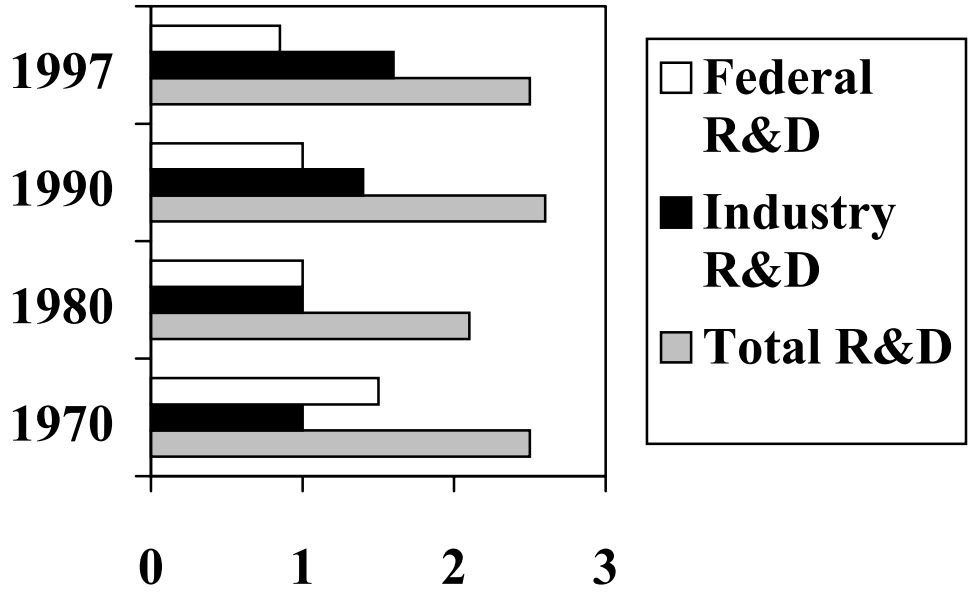

Figure 2. U.S. research and development funding as a percentage of the gross domestic product, by source.