REMARKS BY J. I. GOLDSTEIN AT THE ENGINEERING CONVOCATION

10/21/93 Installation of Dean Joe Goldstein, College of Engineering

Today we are celebrating the "Proud Heritage, Exciting Future" of the Engineering College of the University of Massachusetts at Amherst. This is a very young college by land-grant standards, established only 46 years ago in 1947. The pressure for forming the School of Engineering actually came from the returning veterans of WW II and the G. I. Bill. The first engineering building to be so identified and built on this campus was Gunness Lab constructed in 1949. The main engineering building, Marston Hall was built in two parts, half in 1950 and the second half in 1954. At first there were four major departments, Civil, Electrical, Mechanical and Agricultural Engineering. Chemical Engineering joined the college in 1952 and finally Industrial Engineering was established as a separate department in 1966.

Undergraduate enrollment increased steadily with minor ripples to ~ 1000 students in the late 1960's and held around that total for some years. We had an enrollment approaching 2300 in the early 1980's which has declined over the years to about 1500 today. The first MS degree was awarded in CE in 1953 and the PhD degree programs were initiated only in the mid '60's. Last year we graduated 41 PhD's, the largest number yet. Given the college's relatively short history, we have much to be proud of.

Consistent with this proud heritage, I would like to acknowledge some very important people in the development of the college who are with us today. Professor George Marston, of civil engineering, joined the college in 1947 as the first Dean of the School of Engineering, serving with distinction until his retirement in 1963. Marston Hall was named in his honor in 1953. Dottie Marcus, the widow of Prof Marcus in CE is with us today. Prof. Marcus was also a faculty member in 1949, and Marcus Hall was named in his honor. Dr. Kenneth Picha, who joined the college in 1966 as Dean of Engineering, also joins us at this convocation. Finally I'd also like to acknowledge Prof. Merit White of CE who joined the college in 1948 and continues as an active faculty member to this day.

As we contemplate the past we also need to consider our "exciting future". We're in a time when major changes are occuring. The education of our students will also change. We have a more technically oriented society today but we lack major leadership from our technically trained people. I submit that we need more broadly educated, more risk conscious engineers, engineers who are concerned about the environment, who can communicate well, and who can deal with a global economy and understand the business and manufacturing issues of the day.

Engineers are change agents in a fast moving technically oriented society but we are a conservative lot when we talk about educating the engineers of the future. In fact much of our curricula doesn't look all that much different from the engineering curricula of 20 or 30 years ago.

Today's faculty symposium was framed around *Innovative Curriculum Development* where we began our debate about an integrated curriculum, how to teach computing and other topics. I feel that the curriculum debate will be framed around a concept of the BA engineer, a 4 year liberal arts type degree, the 3-2 model of the BS engineer, and the 4 year BA engineer degree plus the 2 year MS degree as the first professional degree.

The challenge is for UMass to be a leader in this arena and to find a way for our college to turn out the new engineer who is capable of innovation, and leadership in engineering and society in general. For our college to have a leadership role, it will take faculty who will devote more time to the teaching - learning mission, it will take a provocative and pushy dean, and it will take a lot of cooperation by the other colleges at the university.

UMass has quality humanities and fine arts, social sciences, etc. for our students to choose; and our students should avail themselves of these exciting areas. But we have other schools such as business, nursing and natural resources, where minors in management or bioengineering or environmental engineering should be developed. We must lower college barriers to allow us to innovate in our engineering curriculum.

A major challenge of another type is for us to encourage, embrace and help people of color to join our profession in large numbers and to convince more women to study engineering.

These topics and many others, for which I do not have time to discuss today, make for a very "exciting future" for the college. We must not let the current pre-occupation with corporate restructuring and our UMass local budget problems dissuade us from tackling the various challenges which seem to come in alarming numbers. We cannot afford to sit on the sidelines as other schools tackle the problems of today. We must stick to our belief that we are educating and preparing our students for the long run and not for their first position. I personally have great faith in the college's future and welcome all the help that I know will be forthcoming.

To our engineering students in the audience, let me say that I am convinced that you will have an "exciting future". If history is any guide at all, the 21st century will see more changes, more technical developments - many well beyond our dreams. I well remember as a student at MIT in the pre sputnik era looking at some interesting samples of extraterrestrial materials, called meteorites, under the microscope; I never would have dreamed that within a decade I would be one of the first people to be staring at an extraterrestrial sample collected from the Apollo 11 site on the moon's surface. We just can't let short term problems in the economy influence us negatively and disuade us from contemplating future opportunities, many of which are not well defined.

So we have a "proud heritage" in this college to celebrate and an "exciting future" for us to anticipate. I look forward to participating as the college continues to develop and mature.

Before I turn the podium back to Dean Cromack, I would like to make a special introduction and extend a few words of thanks. First of all I would like to introduce my wife Barbara who has been my partner in life for some 30 years. Her council and companionship have been very special to me and I am very pleased to have her with us today. I would also like to publicly thank Dr. Keith Carver, chair of the Electrical and Computer Engineering Department, who spent some 2 years as the acting dean of engineering before my arrival. His loyalty to this college and his colleagues is something to admire. Lastly I would like to thank Dean Cromack and the staff of the Dean's Office for their hard work in organizing the faculty symposium and this convocation.