I am not about to take a stand on the "right" teaching load per professor, nor on teaching methods, nor on the university ideal of being the cradle of new ideas and breakthroughs in knowledge. But, gentlemen, I will take a stand on the importance of every faculty member assuming the responsibility of seeing to it that his masters and doctoral candidates, and post doctorals too, acquire the best possible training to prepare them for becoming the outstandingly competent teachers researchers, administrators and leaders of the future. If university faculties can convince industry that they are bending their energies in this direction, instead of seeking funds to do research for the sake of research, I think they will wind up with a valid claim on industry, which industry will stand ready, willing and able to pay.

In other words, I think industry should certainly invest corporate funds in graduate education, but only under conditions and for purposes that are compatible with the objectives which the company has previously selected as being worthy of achievement and that are mutually satisfactory to both the donor and donee.

Remarks By C.: J. Metz

"Is the pattern of corporate support of graduate education changing?" To get the best possible answer to this question, I decided to survey my friends in 25 major corporations including the leading chemical and oil companies. All are known to be knowledgeable in their approach to educational support. All are interested in chemical engineering and chemical engineers. I am grateful for their help.

Because of the diversity of their programs, I encountered some difficulty summarizing the information provided. However, it shows rather clearly that the pattern of corporate support at the graduate level, the oldest form of assistance with most companies, is changing.

In the next 10 minutes I should like to discuss how the current practices of these companies evolved and make some predictions regarding future trends.

ORIGINAL PROGRAMS:

The first company to embark on a formal program in support of graduate education did so in 1918. Others followed suit during the next four decades with the largest number starting in the 40's.

During this period the most popular forms of support were fellowships and research grants, particularly in science and engineering.

The expenditure of company-earned dollars was justified for a number of reasons. The principal ones were:

1) A recognition that graduate education is necessary in maintaining strong faculties at the collegiate level.
2) To help ease the shortage of professionally trained people.
3) To expand knowledge.
4) A feeling of responsibility for support of academic work in technical fields closely related to a company's interests.
5) The desire for closer relations with academic leaders in these fields.

RECENT AND CURRENT PRACTICES:

Corporate support at the graduate level has gained tremendously over the years, and I believe the reasons for giving have remained about the same.

More recently, during the past three or four years, there has been a noticeable shift in the type of graduate assistance. In some cases the changes have been gradual and in others quite abrupt. More than half the companies surveyed have shifted partially or completely from standard fellowships to more flexibly administered departmental grants which can be used by the recipients as they choose.

In some cases existing grant arrangements have been made more general and one company has converted its graduate research grants to unrestricted grants to universities.

Other variations in the pattern are provided by a small number of companies which have diverted fellowship support dollars to other uses, such as professorships, undergraduate scholarships, the purchase of instructional and research equipment, and support of the company's own employees in their graduate studies.

I believe there are two basic reasons for these changes in graduate support:

First, the ever-increasing number and size of fellowships and grants available from other sources, particularly from the various departments and agencies of the federal government. Some companies felt that the impact of their previous arrangements with the universities had been lessened and that their standard fellowship and grant arrangements were losing out in competition with their own tax dollars which are being administered more generously by the government.

Secondly, flexible or unrestricted departmental grants are more acceptable to the recipients. They supplement more effectively the designated grants from other sources.

This brings us up to the present.

FUTURE:

Now, looking to the future, the companies surveyed were asked if they contemplated any changes in the scope or character of their graduate support programs.

Company responses to this query fall into two categories - those who have already attempted to "come to grips" with the problem and have recently revamped their programs, and those "still on the fence".

As previously indicated, the companies in the first group have already shifted the emphasis of their support from fellowships to grants and, in some cases, to other areas of need. They plan to gear their programs to changing business conditions, changing needs of education and other circumstances; but have no plans for major changes in the immediate future.

The second group is comprised of companies still seeking their own solutions. They, too, are overwhelmed by the proliferation of graduate support opportunities and frequently refer to the programs sponsored by NASA, NSF, NIH, etc. They are uncertain regarding their role in support at the graduate level.

It is my opinion that this group will work out solutions to the problem on an individual basis. In all probability, steps taken will be diversified but, in the main, they will follow the pattern established by the companies which have rearranged their types of assistance in the past three or four years.

CONCLUSIONS:

In conclusion - as an amateur crystal-ball-gazer, I would like to make several observations regarding the future of corporate support at the graduate level:

1) I don't envision a wholesale withdrawal of corporate support in the near future. The present total is substantial - it may increase in total dollars - but as corporate support to higher education in all forms continues upward, the percentage of the total which goes to graduate education may decline.

2) Graduate assistance will become more selective, more closely related to the business of the donor. Companies will examine more thoroughly the university programs and the other sources of income at each institution with which they deal. Administrators of company programs, like myself, are finding it increasingly difficult to justify the expenditure of company dollars in the present atmosphere of uncertainty and change.

3) Some of the dollars previously spent on fellowships and grants at the graduate level may be assigned to other areas of need. In addition to professorships, unrestricted grants to universities, undergraduate scholarships, equipment purchases and other donations, and the support of company employees in their graduate studies - all previously mentioned - there are indications that some of these dollars may flow to plant-town colleges, urban universities, undergraduate programs at liberal arts colleges, and other special areas such as business, economics, and medical education.

If these changes occur, as predicted, and graduate education loses some direct support from companies, I am sure you will agree that it stands to gain, at least indirectly, from the dollars spent in the other areas of need.

To paraphrase a statement attributed to the former head of General Motors while serving as Secretary of Defense -- "What's good for general education is good for graduate education" -- or perhaps I should say --"To assist higher education in general is to assist graduate education."