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AFTER-DINNER SPEECH BY DR. F. E. JONES AT UNIVERSITY COLLEGE, LONDON, FOLLOWING THE OPENING OF THE MULLARD SPACE SCIENCE LABORATORY ON 3RD MAY

Mr. Chairman, My Lords, Ladies and Gentlemen,

It is sometimes said that even physicists occasionally use ordinary language like the rest of us; I suppose in a gathering which must contain a high proportion of physicists, and being one myself, I can hope to get away with a remark like that.

However, I make it because it illustrates the increasing gap between physics and other areas of our everyday life. Physics has had a golden 70 years, starting with J. J. Thompson and continuing through a whole host of other people, many of whom were connected with this College. It has acquired an air of glamour on which it has in many ways traded, quite justifiably because a large element of the reputation this country has for the quality of its research stems from the physics departments of our universities. I am reminded of the time when Rutherford was asked why he always behaved as if he was riding the crest of the wave, to which he replied "Well I made the wave didn't I?"

Physics research has got increasingly expensive since the simplicity of those early days and its High Priests demand enormous particle accelerators, radio telescopes and, coming closer home, satellites. They have become the envy of other departments in our universities and the running of the physics department has become increasingly akin to that of a managing director of an industrial firm - an activity with which I am these days more conversant. But there is a difference inasmuch as everything an industrialist spends he has to earn and the penalties of not paying attention to the relevance of his output can be decisive and painful.

Now it is easy for one's remarks to be misunderstood. I am reminded of the story of an attractive young woman graduate who had submitted a thesis for a second degree and having done very well was called for the viva. It happened that an equally attractive young don had been left to conduct the questioning and, anxious to put the lady at ease when she entered said, "Ah Miss X, pray be seated;

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let me tell you at once that you have done extremely well; your thesis is first class and we have no hesitation in recommending you for the degree you seek." Miss X was visibly relieved and the young don, who was fingering the manuscript on the table in front of him, said, "Let me see, there is only one question, I think, which I want to ask you - what do you intend to do next?" A devastating smile broke over the young woman's face as she replied, "Well, as a matter of fact I had intended to go straight home."

As I was saying, one's remarks can be misunderstood, but I hope that my remarks tonight will not be. I have the highest regard for the quality of our university physics departments and it was a particular pleasure to me personnally that the help which my Company gave to University College to establish its Space Science Laboratory helped to retain in this country an outstanding team which might otherwise have had to look elsewhere for its outlets.

But the facts are that well under 10% of the first class brains from our physics departments are finding their way into productive industry and, once a young man has embarked on a research career at a university physics department, it is very unlikely that he will ever get out into industry. Nevertheless in an economy like ours, it is essentially industry which must ultimately pay for his continued support and this cannot be a healthy situation. Although I would not like to commit myself as to what percentage industry should get, I am quite sure that less than 10% is not a proper proportion.

During a recent convention of atom scientists at Las Vegas one of the professors spent all his free time at the gambling tables. Two colleagues were discussing their friend's weakness, "Hotchkiss gambles as if there were no tomorrow", said one, "Perhaps", commented the other, "he knows something." And if there is to be a tomorrow for Britain I am quite sure that it can only be attained through the increased productivity of our industry and I am quite certain that the diversion of some of our first class brains in the right direction would do much to reduce the technological and managerial gap of which we hear so much.

Much of the responsibility rests with industry itself to improve its own image; its conditions of employment and remuneration must be improved so as to

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be more competitive and it must establish closer links with universities so that the challenge, satisfactions and rewards which it offers are better known to the young physicist at all stages of his development.

But all is not well with university physics departments and I believe they should give very serious thought to the steps they could take to provide a better matching unit which will channel all this talent into industry, and should treat this as one of their major responsibilities. There is much that could be said on this subject but may I leave just one thought with you.

It is traditional for physicists, from school onwards, to look upon research as being the ultimate in achievement, with the result that they come up to university believing that there is some supreme obligation on them to undertake research - if they are good enough. This is fostered throughout their careers and by the time they have taken a Ph.D., it takes a very strong minded young man to break the spell and realise that his talents might be put to better use elsewhere. If only we could break this "Research complex" which is a disease to which physicists are more prone than any other discipline, we should have made a great step forward. It could be that what is needed is an alternative course of the same calibre as the Ph.D., but channelling people to industry and technology rather than the academic life. A great deal more discussion is called for before one can pronounce on this, but I believe that the university physics departments must be enlisted in formulating the solution because they will be principally concerned with implementing it.

Gentlemen, I have no intention of emulating the after dinner speaker who rose to the occasion and stood too long, but I have every sympathy with George Bernard Shaw when he said that "Science is always wrong. It never solves a problem without creating ten more." The very success of our physics departments has created the problem I have referred to and I only hope the departments will now help us to solve it, but this time without creating ten more.