leaving university with bachelors or advanced degrees are looking to do engineering and scientific work. If we cannot find it for them, they are going to go where it is.

Mr. Richmond: That leaves a gap, it is a two-headed affair. You have to have levels of skill, just like a book with a whole lot of leaves in it. You cannot use all graduates and you cannot use all men with ten years experience. So if there is not some continuity of taking these people in and they leave the country, then it is very difficult to get something started. You have to go out and recruit outside the country.

Senator Bourget: What is the percentage of scientists in your industry who are Canadian-born?

Mr. Golden: There are no such Association or industry statistics. Maybe some of the companies have it.

Mr. Richmond: I really do not know. Would you know of that, Mr. Smith?

Mr. Smith: I would guess that 30 per cent of our engineers and scientists are Canadian-born.

Senator Bourget: Are you losing many to the United States?

Mr. Smith: No, talking for United Aircraft we have a sufficiently rapid growth in our activities that we have had relatively small attrition in recent years.

Mr. Richmond: It is a good example; if you can provide interesting work they will remain.

Mr. Smith: We have recruited a large number of people in the United Kingdom, I might say, on a fairly regular basis to fulfil the requirements.

The Chairman: We were told this morning that we are importing people from the U.K. and Europe and that we are exporting to the United States.

Mr. Golden: That did not start yesterday and it will not end tomorrow.

Mr. Taylor: This goes back to the university question. There is much discussion among people these days who are studying exactly what is going on here about so-called mission-oriented research and potentially more mission-oriented research in universities. This is so that those things that the universities are doing will be directly useful upon the graduation of the student. He is then better adapted to immediately fit into the needs of industry. I think we are all hoping that out of the various studies that are going on now we will see more industry, university co-operation and more direction on how the studies should go. In this way when graduates do become available we can immediately fit them into industry without any gaps in what is going on. I think this is a highly desirable direction to reach. Also, if we can establish our national goals as a country and we can orient ourselves, all of us, industry, universities, government laboratories alike, address ourselves to these goals specifically, then we can see a much better overall result coming out of it.

Mr. Ross: If I could add, Mr. Chairman, to what Mr. Taylor has just said. I am quoting numbers here that were given by Dr. Patterson at the Science Council. He estimated that in 1968 there were 5,500 R and D engineers in Canada. He said that it is expected that by 1975 there will be a total of 11,000 such engineers in Canada. The proportion of these engineers with advanced degrees will increase from 30 per cent at present to some 60 per cent in 1975. I think this doubling of the scientific and engineering population means that we have got to double the amount of work that we want to use these people for. If we do not have the economic growth which is going to absorb these people and utilize them effectively, then they are going to leave the country. The money that we have invested in their education will, of course, be lost to the economy.

Senator Bourget: Of course many of them will be absorbed by universities.

Mr. Ross: Some of them will go back into teaching, yes. Some of them are foreign students and they will return to the country of their origin. These numbers, the 5,500 and 11,000 are those that are expected to be available within the country in total. Perhaps what it means is that if universities are planning to produce that number of people there should be a proper relationship between the industry planning and the availability of scientists and engineers.

Senator Bourget: You are not afraid of an overproduction in scientists?