

What are we to make of the hon. gentleman's statement that what we must do is to go back to first principles? What are first principles, and how do we get back to them? The position we are now in is that there have been scientific developments; that because of those developments man has multiplied upon the earth, and that by using those scientific developments to live together we have raised ourselves, perhaps not to any great height, but certainly beyond the conditions of the cave man. Does he suggest that we go back to the cave man? He should define first principles. He should define his concept of the fundamentals of religion.

An hon. MEMBER: Who says there was a cave man?

Mr. MacINNIS: I assume there must have been.

Mr. JAQUES: I made it clear that I meant a return to the principles of Christianity.

Mr. MacINNIS: But the principles of Christianity are only two thousand years old, whereas our human life goes back over a very considerable period. People who ought to know say, billions of years. So that to ascribe to us certain ideas, and to make statements such as the hon. gentleman made, merely indicates a lack of knowledge on his part. I have heard my hon. friends time and again state in this house how much more productive an individual is in this modern world than were our ancestors even a few score years ago.

Mr. BLACKMORE: Is it not true?

Mr. MacINNIS: It is quite true, but it is not the individual man that is productive. The individual man is no more productive to-day than he was ten thousand or a million years ago. What is productive is the social man, and if you put a man to work producing anything to-day or put him to make his own living, the individual man to-day is less capable of producing his own livelihood, as an individual apart from society, than was his grandfather or his great-grandfather, because he is farther away from the simple principles of living upon what he produced himself. But social man is so productive that we do not know what to do with the volume of the things he produces, so we have to call a war every twenty-five years or so in order to destroy our surpluses. What we are here trying to do is to get away from that and to use our scientific achievements in production; and, as the hon. member for Cariboo (Mr. Irvine) said, to use those scientific achievements also in distributing the things we can so abundantly produce.

That is what this party stands for. We do not maintain that we have any corner on knowledge or even on good intentions, but we do maintain that by making use of the knowledge which the human race has acquired over the years we can make progress.

Hon. C. D. HOWE (Minister of Reconstruction and Supply): There is very little that I need to say at this time. The principal suggestion in the debate is that the scope of the amendments should be enlarged to include the social sciences, as well as the work now encompassed in the Research Council Act. I think it is inevitable that the work of the research council will centre primarily on applied science rather than on pure science. The reason for that is that it is possible to organize the work of applied science. A project can be organized that has as its objective the applications of known facts of science to a particular problem. For example, it is possible to work out a method for producing magnesium, which has been mentioned in this debate. That was worked out, and I will later say a few words about Dominion Magnesium Limited in reply to the question of the hon. member for Davenport (Mr. MacNicol), which I agreed to do. But it is not possible to organize research in the field of pure science in the same way.

The council can assist universities in organized research on these lines, but it is not usual that the discoveries of pure science come from organized efforts. Reference has been made in this debate to the discovery of penicillin. Last summer I had the good fortune to spend a day with Sir Alexander Fleming, the discoverer of penicillin. We both received honorary degrees from Harvard on the same day. I was interested in his description of how penicillin was discovered.

Sir Alexander was relieved from his ordinary duties as a teacher and he was doing some independent research on the virus of a malignant disease. He left his cultures by an open window and when he came back the next morning he found that they were dead. He was a highly trained man of science and he thought there must be some reason for it. So he tried it again and again; each time that he left his cultures by an open window he found them dead the next morning. He then set out to discover what was killing them and he traced the cause to a mould which was being blown through the air. He then started to work on the mould to see what medical properties it contained. From that research came the discovery of penicillin.

This country needs more men in the field of pure science. There is no question about that. It needs more work in pure science.