

capable and on which no one can improve." Indeed, this condition is very seldom met and when it is, most people would agree that the scientist should be left completely free, within certain financial limits, to determine his own activities. Excellence is so rare that it must remain free.

For another, one of the important requirements of economic liberalism is that private producers should use their own funds in the pursuit of their objectives. In our democratic society, there cannot be any objection to scientific *laissez-faire* if the scientist is prepared to use his own funds, unless his research activities go against the law of the land. This, however, is not what the modern proponents of the Republic of Science want. They are asking at the same time for more public money and less public control. Society, and government as the guardian of the public interest, obviously cannot accept a request that in too many cases would amount to a social security measure or job-creating program for scientists.

Finally, Polanyi exaggerates, to say the least, when he claims that "the aspiration of guiding the progress of science into socially beneficent channels" is "impossible and nonsensical". So does Dr. Douglas when he says that "the proposal of the Science Council that we should shape our laboratories to meet predetermined social and economic objectives is one which will . . . force us into the backwaters of science. . . ."

Such statements cannot be reconciled with the major scientific and technological developments that have occurred since World War II in industrialized countries, especially in the United States. Most of the American science effort during the last 25 years has been guided by social and economic objectives, if defence and landing on the moon are included among those objectives. The fact that non-scientific purposes have been the main determinants of research in the United States has not brought "the progress of science virtually to a standstill" and has not forced American researchers "into the backwaters of science".

The Republic of Science, like economic liberalism, may have been a desirable institution in the 19th century, but it cannot be accepted as "the most efficient possible organization of scientific progress" for the benefit of society in the conditions likely to prevail during the rest of the 20th century. This does not mean that centres of excellence in pure and basic science should not be developed and maintained in advanced countries or that scientists and engineers financed through public funds or working for industry should not be allowed to do curiosity-oriented research of their own choice. It does mean that *laissez-faire* cannot be justified as a general principle for the organization of scientific progress when the tremendous cost of research has to be met mainly by public funds and when the good