opportunities for all candidates.

On fundamental research, which the committee regards as "an essential element in the total science and technology system", the committee asks that advanced nations should acknowledge their obligation to provide help for the advancement of fundamental research and that support for basic research should not be diminished in the search for new priorities in the application of science and technology. At the same time, in spite of the advantages of some degree of competition between nations in science, the committee considers that the countries of the OECD at least should be "moving away" from national competition towards closer international collaboration, especially where conspicuous national facilities are concerned.

On the view that most nations will in future require a blend of centralized and sectorial policies for science, the committee argues that the OECD should carry out studies that would inform the making of policy for science and technology in fields such as mass transportation, land use, the postal services and solid waste disposal. Nevertheless, the committee is anxious that no nation should so commit its resources in science and technology to specific fields of interest that money cannot be spared for long-term and basic research. The committee follows a cautious line on the environment but it does ask that individual nations should not act unilaterally in the imposition of standards without calculating the consequences for the pattern of international trade. This, no doubt, is an oblique reference to such things as the determination of the United States Congress to impose restrictions on the effluents from motor car engines.

The committee also asks that the OECD should take a lead in persuading governments to set up suitable machinery for the formulation of science policy. Readers of the report will, however, be at a loss to know whether the OECD is asking for a ministry of science in every member nation by urging the "creation of a governmental mechanism, operating under specific authorization and full support of the head of government, with responsibility for investigation of long-range policy issues". An important part of its argument is that a great deal of the planning of science and technology cuts across the lines on which government departments are at present organized, and that there should be formal machinery for reflecting this pattern. At the same time, the committee takes the view that the OECD in general and national governments in particular should create special machinery for providing technical assistance to developing countries.

WEITZMANN INSTITUTE

Science and Society

from our Special Correspondent

Brussels, June 29

"We have had the extraordinary experience of having nine of the most experienced scientists for two days on a psychiatric couch." That is how Professor Albert Sabin, President of the Weitzmann Institute of Science, summed up a conference on the impact of science on society, held this week at the Palais de Congress in Brussels. Unfortunately, however, his metaphor was given an unintended meaning by a story related earlier at the conference. It was alleged that the famous mathematician Norbert Wiener spent three days on a psychiatrist's couch relating his problems, at the end of which the psychiatrist confessed his inability to make a diagnosis and Wiener left, none the wiser about his condition. To be sure, the conference lasted for only two days, but an experienced onlooker would probably have found himself in the same unfortunate position as Wiener's psychiatrist.

In spite of the considerable array of talent assembled at the conference (which was arranged by the European Committee of the Weitzmann Institute, and which consisted of about two hundred scientists, including five Nobel Laureates, government planners and industrialists), Sabin himself suggested at the end of the first day's session that the discussion was concerned too much with generalities and not enough with specific issues. Heeding this suggestion, therefore, Professor David Samuel, a biologist engaged on brain research at the Weitzmann Institute in Rehovot, took the discussion of the impact of science on society into the realms of the ethics of brain research. Although he freely admitted that his conclusions and suggestions are not novel, he provided a stimulating discussion of the possibilities open to the scientific community for regulating a specific area of research that has aroused great fears among laymen and also among some scientists. He put forward the suggestion that trends in brain research should be evaluated by the best people concerned, and that a code of ethics should be drawn up to cover the use of human volunteers, the permissible extent of drug trials and the moral aspects of some types of transplants. Such a code would be "not unlike the Hippocratic oath, and it would help guide scientists and show the public that guidelines are being laid down to guard the sanctity of people's minds".

Samuel was, nevertheless, sceptical about most of the horror stories perpetrated by uninformed commentators on the likely possibilities opened up by brain research. He suggested that the

idea that electrical stimulation of the brain can be used to change personalities, for example, is not a realistic proposition. Likening the human mind to a telephone system that is a million times more complex than the world telecommunications network, he said that "the complexity of the human mind is a sufficient safeguard against manipulation by a madman or a dictator". Language, culture, personal identity and political ideology are not controllable, he said, but on the other hand, brain research if correctly applied could lead to immensely valuable results.

Some participants did not, however share Samuel's optimism, Professor Aharon Katzir-Katchalsky among them. He told the conference that "there is no question that the public opinion that there is danger in this research has a lot behind it", and he questioned Samuel's suggestion that a value-system for regulating scientific research can come from science alone. But another popular suggestion that from time to time came under fleeting discussion—that a moratorium could be placed on some areas of scientific research—found few supporters. Katchalsky, for example, said, "Nobody knows how to stop research and the truth cannot be kept under control."

The burden of Katchalsky's message to the conference on the first day was that molecular biologists are facing a crisis of conscience equivalent to that faced by nuclear physicists after the atomic bomb—but at least they have the chance to think out the likely consequences of their research before it is too late. Treating the conference to a short survey of the more popular fears and moral problems faced by molecular biologists, he concluded that science has brought about the necessity for coming to grips with international politics, and that scientists should collaborate with people involved in public affairs to bring scientific methods to bear on social problems. But first they must put their own house in order.

In the event, what emerged from the conference was the impression, suggested by Professor Victor Weisskopf in the closing session, that "science is on the defensive". The ten speakers, including Sabin himself, gave the benefit of their 550 years of combined experience to the viewpoint that science, if properly used, is not necessarily an object to be feared or mistrusted. And, as Professor Jean-Jacques Salomon pointed out, "the simple fact that you are met here to discuss the impact of science on society proves no doubt that there is no cause for despair". Nevertheless, many of the participants vented the opinion during the coffee breaks that a large congress discussing general questions is not necessarily the best forum for stimulating debate.