reacts more favorably to the idea of a technology assessment that is limited to an analysis of alternative policies and that stops short of recommending a particular course of action.

Green has proposed, to the horror of some, that Congress set up an ombudsman agency that would investigate all potentially harmful consequences of new technologies and call these to the attention of Congress and the public. Chauncey Starr regards this proposal to set up a devil's advocate as one which would represent simply another futile atempt to decide technological questions through an adversary proceeding. "Such a proceeding always produces a winner," says Starr, "but the winner may be wrong."

However, in describing the benefit-risk "calculus" used by government agencies in pressing new and sometimes dubious programs of technological development, Green makes a point which the advocates of technology assessment would do well to ponder soberly. In a talk given recently at a conference on law and the environment sponsored by the Conservation Foundation, Green said the problem of risk tends to be minimized through the following process of reasoning: "(i) we do not have enough scientific knowledge to tell us whether or not the risks are really significant, but our present judgment is that the risks are insignificantly small; (ii) as the project goes forward, further research will be undertaken to verify our judgment that the risks are insignificantly small; (iii) whatever risks do exist can be reduced to tolerable dimensions through technological devices; (iv) if the risks indeed are found to be be, and remain, significant, the program will of course be abandoned or drastically restricted or controlled to protect the public interest. QED." (This calculus is precisely the one followed by the Atomic Energy Commission recently in proceeding with its plans to conduct a series of unprecedently large underground explosions on Amchitka Island, in the earthquake-prone Aleutians.)

How much help is technology assessment going to be when, as will often be the case, the benefits of a proposed technological development are far better known than the risks? Starr says that one of the advantages of technology assessment is that it promises to point up information gaps. But the recognition of such gaps in the past has not brought about a noticeable slowing of the pace of technological developments, some of which (such as the continued widespread use of persistent pesticides) may yet lead to environmental or social disasters.—LUTHER J. CARTER

Atlantic Community: G. Swinger Takes Part in Discussions

The Supranational Committee is one of various organizations created in recent years to encourage scientific and technical cooperation in the Atlantic Community. Its most recent meeting produced a wide-ranging discussion of problems within the committee's jurisdiction, and Science *is pleased to present a summary report of that session.*

The meeting opened with a presentation by Dr. Grant Swinger (director, Center for the Absorption of Federal Funds, U.S.A.). After expressing appreciation for being given an opportunity to address the group, Dr. Swinger declared that Europe must look after its own needs and resist American influence. Dr. Swinger added that, in view of conditions in the United States, his organization was considering an expansion of international activities. While American dominance is to be avoided, he said specialized American skills should be looked at carefully, and, for this purpose, his organization was prepared to offer its services. "We can make available much valuable experience," he stated. (Brochures were distributed.)

The next speaker, M. Embrouiller, stated that the views he was about to express were neither his own, those of the organization by which he was employed, nor those of his government. Any further action by the committee, he said, should be temporarily suspended, though he emphasized that study and consultation should proceed. Germany, he pointed out, has just elected a new government. France has a relatively new government. Britain will hold an election within a year or so. In addition, he said, Germany recently revalued the mark. All this being so, he continued, the present moment is not propitious for undertaking significant action. (Dr. Swinger rose to express agreement, but was ruled out of order while attempting to explain that the time was ripe for an extensive study, which his organization was prepared to undertake on brief notice. Additional brochures were distributed.) M. Embrouiller continued. He said he did not wish to be misunderstood. Cooperative activity merited the highest priority. "The question was not whether to proceed, but when to proceed. Not should we proceed, but how should we proceed. Not can we proceed but how we cannot not proceed. Not the wisdom of proceeding, but the folly of not proceeding. Not . . . ." (At this point, the chairman whispered to the speaker.) Continuing, M. Embrouiller said that the present moment is simply not the right moment. He added that, in his initial presentation, he had omitted to mention the fact that Norway, the Netherlands, Denmark, Greece, and Italy will be holding elections at the national or local levels within the near future. His failure to mention these nations in his opening remarks, he emphasized, should not be interpreted in a prejudicial manner, as relations between these nations and his own had long been characterized by cordiality.

M. Embrouiller, in reply to an inquiry from the Norwegian delegate, said that he did not know when elections would take place in Norway, but that he would be pleased to make the information available as soon as possible. The Greek delegate emphatically denied that any elections were planned in his country. M. Embrouiller immediately extended an apology, citing the cordial relations that existed between the two countries.

Turning to substantive matters, the

delegates voted to reserve decision on whether to accept a report proposing establishment of an interim working group on preparation of the agenda. The chairman protested that the committee had been meeting monthly since 1963 without an agenda, and that matters might be expedited if the delegates were given an opportunity to consider beforehand the items that might arise for discussion. A motion was offered to create a study group to consider the advisability of appointing the proposed interim working group, but, upon failure to achieve unanimity, the motion was dropped. Expression of "sympathetic and understanding regrets" was unanimously voted for the difficulties encountered by a representative group from underdeveloped nations that had been unable to attend the committee meeting because of poor weather at the airport that serves Saint-Tropez.

The committee next took up a proposal to establish an organization "for the study of the future." Dr. Swinger, drawing upon his American experience, assured the delegates, "No field is riper for development and exploitation than is the study of the future." Noting that funds for research were generally in poor supply at this time in the United States, Dr. Swinger pointed out that "future studies are nonetheless in a growth situation, and merit careful attention." The speaker was asked about the disciplinary and scholarly requirements necessary for effective study of the future. He replied that the field was characterized by great flexibility. Asked to cite significant recent contributions, Dr. Swinger replied that the great merit of the field was that each completed output tended to be forgotten amidst efforts to embark on even more ambitious studies.

The afternoon session was taken up with a series of reports. The ad hoc working party on technological and industrial development, recently returned from an extensive tour of Japan, reported that "Japan's greatest fear today is cheap German imitations." A protest from the German representative was cordially withdrawn after a member of the touring group explained that he felt certain the comment was directed toward East Germany.

Sir Hugh Hinderence reported that the spirit of international cooperation was increasingly strong within his government, but that various criteria necessarily entered into the relevant policy deliberations. Basically, he said, it was his government's feeling that those fields in which it enjoyed prosperity might best be handled on a national basis. In areas where the economic picture was less certain, he continued, various forms of cooperation might be desirable. Thus, while his own government had no desire to become a space power, it hoped that its neighbors would not feel restrained in this regard. To be of assistance, his government would be pleased to furnish the necessary components, particularly launch vehicles, on a cost-plus basis, provided due allowance was made for the uncertainties of delivery dates.

A report was received from the working group on international conferences. Efforts had been made, the group reported, to prepare conferences on pollution, oceanography, youth and drugs, student unrest, and highway safety. Unfortunately, virtually everyone who was invited to attend responded that he was booked up for at least the next 3 or 4 years.

At the completion of the meeting it was unanimously agreed that the proceedings had been highly successful, and a subcommittee was appointed to consider whether the committee might fruitfully expand its schedule to meet twice monthly. Dr. Swinger, in thanking the delegates for their hospitality, said that the proceedings had revealed to him many interesting possibilities, and that he confidently looked forward to expanding the European activities of his organization.—D. S. GREENBERG

Romania: Academy Links Basic Science to Current Needs

Bucharest, Romania. In the exposition area on the northern edge of this city, the Romanian government this summer opened a mammoth exhibition, displaying the achievements of Romanian socialism in the 25 years since the country's liberation from Nazi occupation. The exhibition deals with all aspects of Romanian life, but the primary emphasis, not too surprisingly, is on economic achievements, and particularly on the development of industry.

Industrialization has been the central focus of economic growth in Romania since World War II. Before that time, the country was almost completely agrarian, so, by emphasizing the development of industry, Romania has been able to modernize all areas of the economy and, perhaps most important, achieve some level of economic independence.

This same desire for independence seems to be the guiding spirit behind the development of science in Romania. And this is not due merely to the advent of socialism. Throughout the 19th century, Romania was fighting for its independence, and intellectuals played a leading role in that fight. It was therefore almost mandatory for scientists taking part in that fight to do their research on subjects that were of immediate importance to Romania. And today, in trying to develop a base in fundamental science and at the same time use science for economic development, this tradition has remained important.

Perhaps nowhere is this tradition more evident than in the Academy of the Socialist Republic of Romania, whose institutes carry out most of the country's basic science.

The Academy's roots go deep into Romanian history. From the outset, it was linked with the Romanian struggle for independence. After several false starts—the last squelched by the suppression of the 1848 revolution, in which many intellectuals played a leading role—the Academy was founded as the Romanian Literary Society in 1866, with 21 members. The next year, it was renamed the Academic Society and given the task, according to its charter, of "working for the advance of science and literature among Romanians." But intellectuals in Romania were more interested in fighting for national unity than in doing science, and so they mainly studied and publicized the common roots of the three Romanian peoples, particularly the language, literature, and history.

In 1878 the Berlin Congress recog-