in an introductory chapter. Section one deals generally with fungus/root associations. Although the author amply justifies beginning in this way, some readers might have preferred to start earlier on detailed consideration of mycorrhizas. Sections two and three deal with ectotrophic and endotrophic mycorrhizas. Throughout, there are valuable discussions of the experimental techniques used and the practical implications of findings, particularly to forestry, are mentioned as appropriate. Further discussion of the problems of estimating mycorrhizal infection (page 54) would have been helpful. The absorptive role of mycorrhizas is given detailed consideration, covering cation and phosphate uptake and the controversial subject of nitrogen fixation. The new chapter on carbohydrate physiology of ectotrophic mycorrhiza makes stimulating reading.

The text is largely free of printing errors. On page 232 "gibberellic acid" has apparently been substituted for "fusaric acid". Frequent references to appendices containing notes serve to keep the book up to date, but also reflect the long time between writing and publication. Some of the graphs taken from published papers need slight modification (for example, deletion of extraneous symbols in fig. 14, page 130) to make them more readily understood in the present context. When referring to plates, it would be helpful to add the page number. The general appearance of the book is better than that of the first edition, but this and the increase in length of the text from 204 to 282 pages seem insufficient to justify increasing the price from 55 to 150 shillings. This high price will deter people from purchasing their own copy of a book which they would otherwise like to possess.

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International Conferences

SIR,—There have recently been several occasions when scientists have refused to attend certain meetings because they have objected to some of the actions of the government of the country in which the meeting was being held. It seems likely that such situations will recur in the future. These and similar problems arise in international scientific relations because of the profound division of the world into ideologically, politically and socially different systems. We feel it important that the issues involved should be discussed by the scientific community. We do not aim to lay down in detail the judgment to be made in any particular instance, but to see if some measure of agreement can be obtained on a few basic principles and rules which could serve as guidelines for making decisions. In the last analysis we believe that such decisions must remain the personal responsibility of the individual scientist.

The great majority of scientists would agree that: (1) Science is international. Free and constant intellectual communication between scientists is essential for the health of science, and frequent direct personal contact is very desirable. (2) The scientific community should not be divided because of non-scientific issues, if such division can be avoided.

Nevertheless, certain national aspects of science are unavoidable. The funds for most scientific research and teaching are provided from national sources. Meetings must take place in some particular country or other, unless we are only to meet on the high seas. In addition, at the present time we have to face the following facts. (*a*) Some countries put more or less severe restrictions on foreign travel by their own citizens, and/or on visits by citizens of certain other countries. (*b*) Scientists and scholars have (quite recently in some countries) been dismissed or imprisoned without fair and public enquiry or trial. (*c*) In some countries the public discussion of certain scientific ideas may be difficult, if not actually restricted, because they are considered to contradict or question the official philosophy which forms the basis of the social system. (*d*) Because many meetings, congresses, or even individual visits are officially sponsored by governments[1], some scientists feel that their participation in such activities could be construed as implying their approval of a system or policy which in fact they strongly dislike. They feel morally bound to decline certain invitations even though their acceptance might contribute to fruitful scientific communication.

In making a decision on these matters, a scientist, we feel, should not be primarily concerned with the question as to which course of action might best serve his own public image. Nor should he let his personal sympathy or antipathy towards a regime or its ideology *automatically* decide whether he should accept a foreign invitation or not. As a citizen he may hold, and express, his opinions of a certain social system, of its ideology or of the policy of its government. As a scientist, and when confronted with a specific issue whether or not to accept an invitation directly related to his field of activity, his major concern should be to try to make the decision which, in his opinion, would best serve the international scientific community and encourage freedom of expression and communication. He should therefore not allow his authority or prestige to serve, implicitly or otherwise, the propaganda of any regime or organization responsible for putting restrictions *of any kind* on the freedom of communication between scientists or on academic freedom in general. At the same time, he will not want to penalize scientists of another country because of the oppressive or restrictive policy of their government, of which, in many cases, they are the first victims and the strongest opponents.

It would follow, therefore, that invitations sponsored or honours bestowed by a government responsible for any sort of restriction on the freedom of science and scientists should be declined. The reason for the refusal should be clearly stated, and refer not so much to the general policy of the government as to its attitude towards its own scientific and academic community. Private invitations[2] by individual colleagues, universities or institutes, by contrast, could be accepted, and should whenever possible be turned into an occasion for reaffirming publicly the unity of the scientific community and its opposition to any ideological or political oppression.

Attendance at a particular meeting in another country might, in suitable cases, be made dependent on a set of conditions aimed at making the meeting an open and unofficial one. Such conditions might be: (1) the government would not prevent the attendance of any *bona fide* scientist at the meeting; (2) the government would not make any political propaganda about the meeting being held in their country; (3) officials of the government would not address the meeting; (4) direct[3] financial support of the meeting by the government would not be acceptable[4], except perhaps for optional cultural activities which individual scientists could feel free to refuse if they so wished.

We fully realize that, while these principles and rules seem clear and simple enough, it may be difficult in many particular instances to decide just where to draw a line and how to make one's own attitude known without allowing it to be unduly exploited and without endangering certain colleagues. In spite of these difficulties we feel that a wide consensus, within the scientific community, in favour of actively defending these principles on every possible occasion is likely in the long run to serve not only the development of science but also the wider cause of civil liberties and human rights.

In any case, we hope that our suggestions will provoke a wider discussion of the issues involved and of the correct course of behaviour to be followed. We suggest that any scientist who agrees or otherwise with our general position might usefully send a postcard or letter to the Editor of *Nature* to that effect.

Yours faithfully,

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[1] We would also include political or military organizations supported by several governments. The discussion might reasonably be extended to organizations within a country, such as military establishments, commercial firms, and so on, but to avoid complicating the issue we suggest that these cases be left aside for the moment.

[2] We realize that there are some countries where all such private initiative is controlled and any invitation would have to be considered an official one.

[3] It may be difficult in some cases to decide whether the support is "direct". In assessing this it would seem sensible to consider whether there are any strings attached to the granting of the money, or whether the money is allocated on a strictly scientific basis, without any political or military considerations.

[4] Scientists at the present time appear to be divided on the ethical issue of whether one should accept money from a government of which one disapproves. Some feel strongly that money should not be accepted. Others argue that such financial contributions, though small, will, if anything, weaken the organization which makes them. Because we believe that even after debate there will always be a substantial fraction of scientists who are against accepting such money, we suggest that no useful purpose will be served by publicly debating this particular ethical point in this context.

All Change

SIR,—In your issue of September 20 you published an editorial note, "Biochemical Meeting—All Change" (*Nature*, **223**, 1196; 1969) concerning the transfer of the Eighth International Congress of Biochemistry from Rome to Switzerland.

This note implies that the main reason for this transfer is the unrest of the students in Italy's universities, or so it has been suggested by the police force of the city of Rome. This seems to me quite untrue and unfair to the motives behind the behaviour of the Italian students.

The situation of Italy's universities in the last twenty years has progressively deteriorated because of the outdated and antidemocratic system on which it was based, and consequently has now reached breaking-point. The students have recognized their responsibilities and are now trying to force the Italian government to change the situation in their universities, sometimes, it is true, by unorthodox methods. The fact that the reform of the universities is now being discussed by the Italian Senate is due to the pressure of the students and certainly not to any effort on the part of the university "professori" or the government, who had twenty years to modify the situation and took no action. It is the authorities who have to be considered responsible for the present unrest in Italian universities.

I hope that the biochemists will not mind too much commuting between Lucerne, Interlaken and Montreux, and I am sure they will be welcomed in Rome once the Italian government no longer considers the International Biochemical Congresses an unwanted distraction.

Yours faithfully,

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Retire Early in Brazil

SIR,—You recently (*Nature*, **222**, 909; 1969) invited suggestions for alleviating the serious situation facing many Brazilian scientists who have been forced to resign from their positions in state universities, apparently for political reasons.

This situation seems to be of a type occurring more frequently in recent years. It raises the immense problem of what can be done to prevent government interference with the professional activities that scientists may be commissioned to undertake on behalf of the community for which they work: interference, moreover, that is based exclusively on grounds (political, religious or racial) unrelated to their scientific competence and responsibility.

Assistance can be, and is being, given at an individual level in finding jobs for several of those concerned in other countries. One possibility for the future would be the setting up of some sort of permanent International Scientific Labour Exchange to deal with similar situations in the future. But this, by itself, is not enough.

Scientists, more perhaps than others—by tradition and by the nature of their work—have a responsibility to the community and to themselves that is, first and foremost, international. This obligation cannot be properly fulfilled under conditions of systematic political restraint or exploitation.

Situations analogous to that in Brazil operate in South Africa, Greece, Spain (perhaps to a lesser extent) and more obscurely in some other countries where political considerations impinge critically on scientific freedom. They have impelled some scientists—individually, through ad hoc groups or in organized societies—to consider and sometimes introduce certain measures of boycott, albeit limited, in order both to register disapproval and to avoid serious restrictions on their international activities. Such moves have been opposed by many, sympathetic in principle to these objectives, who are understandably reluctant to support action that (*a*) might defeat its own purpose by itself restricting international scientific contact and (*b*) would be difficult to limit to specific countries on any other than rather arbitrary criteria.

These difficulties however, might be overcome by (*a*) careful formulation, perhaps in consultation with international legal experts, of proposals structured in a manner already found to be meaningful and operationally valid in international agreements and (*b*) obtaining more accurate information on situations in countries where the application of such sanctions has to be considered.

These tasks would then have to be carried out by an international body representing national associations of those most closely concerned with the promotion of freedom and social responsibility in science. We have in this country a recently inaugurated British Society for Social Responsibility in Science with interests which it may be hoped are sympathetic in principle to the suggestions outlined below. There are analogous societies already functioning, or in process of formation, in other countries. Might it not be possible to constitute some sort of international body with representatives of these (and other) national associations to modify, agree on, and finally to implement, a proposal along these lines?

The relation between such a body and the International Council of Scientific Unions (ICSU) would have to be worked out and promoted in the hope that through ICSU itself these proposals could best be implemented. Indeed, their objects and aims are entirely consistent with ICSU Statutes and in furtherance of the Human Rights Covenant of the United Nations.

I would therefore suggest that consideration be given to the setting up of an international body representing appropriate national organizations concerned with the promotion of freedom and social responsibility in science, having the task of: (1) Critically surveying the situation in all countries with respect to the fundamental right of