

field, as their foreign colleagues have been for some time. The number of girls enrolling in medical schools is increasing and in some schools 40% of the students are now women. There will be more jobs for women doctors as the health and university reforms take shape, and it is likely that women will assert themselves in medicine more than in any other profession.

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European Journals, Societies, and Meetings

Journals

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So far as journals are concerned in medicine and biological sciences the potential reading public is roughly the same in Europe as in North America in terms, for example, of the number of doctors concerned (somewhere between 300,000 and 500,000). In terms of actively engaged workers and readers in the biomedical sciences, the numbers for Europe are certainly less than for the U.S.A. Yet the number of journals (not just those quoted in the current contents in the *Index Medicus*) is unequivocally greater—a reflection of the much greater individuality and fragmentation of groups within Europe, both between and even within national structures, including differences in language.

There are three types of journal.

The first type is directed principally at general practitioners and specialists with broad interests in several specialties, and at all doctors interested in the socioeconomic aspects of medicine. This type of journal aims to provide information to a large number of practitioners, postgraduate and continuing education of the "refresher" type, specific information about the structure and freedom of the profession, rules and regulations of all sorts, as well as expert advice of a practical administrative kind, and evaluation of new drugs. These aims are achieved by national publications in the national languages. Usually national medical associations take on this responsibility and will very likely continue to do so.

It would probably be useful to introduce two additional features. Firstly, there should be some form of central European co-ordination among those responsible for this type of journal. Secondly, perhaps the national medical associations could agree to publish one common additional journal to be mailed to all European doctors and providing principally abstracts about important advances and important new regulations. The policy of a truly European journal should be always to accept in principle a contribution in the national language, either to publish it as such or to set up a machinery for prompt translation of digests. The languages would soon decrease to a reasonable number—French, English, perhaps German, occasionally Spanish and Italian. National associations would take over the responsibility to decide whether a translated version of some or most contributions into the national language would be required for the next issue and for local distribution. Each doctor should still receive the original, so that he has an idea of what is translated and what is not.

It must be accepted as a fact that English is and will remain the principal scientific and medical vehicle of international communication. Certainly it will be so for communication with the largest body of relevant information in the world—that is, North America. The English-speaking doctors will therefore enjoy a unique advantage—that of not having to learn other languages. This type of privilege is likely to be considered tolerable only if the English-speaking communities show evidence of special interest in arriving at and carrying through mechanisms aimed at facilitating the flow of information from English into other languages—making available freely and promptly useful information of every type and helping in its

translation and diffusion. For this purpose of course the U.K. already has vehicles of exceptional quality, adept in the prompt publication of digests as well as articles. I am speaking especially, of course, of the *B.M.J.*

Specialist Journals

The second type of journal is that directed principally at medical specialists, serving to maintain the flow of information between the relevant medical sciences and the specialty concerned, ensuring continuing education in that specialty, and publishing original investigations relevant to the specialty. At present these are produced by publishers who see a need for them, by national societies or groups of specialists, and journals edited by a European society of the specialty. I believe that this last kind should be encouraged. I am concerned with the journal on diabetes, *Diabetologia*. This started by thinking that we needed each paper in three languages. It has now graduated to being principally in English.

The third type of journal is concerned primarily with biomedical sciences. Europe has contributed some very interesting examples—such as *Experientia*—published in six languages, including Russian. The summary of each article has to be in another language of the Six.

In conclusion, all this should not destroy the existing good journals, such as the *Lancet*, *Nature*, and the *New England Journal of Medicine*. Journals are one of the major means of communication among doctors and biological scientists of different countries—and in Europe they already function as such. Equally evidently, their operation and impact must be improved and all members of the European Community must feel that they contribute to their function. This will require an imaginative approach to the problem of languages—not just single translations on a large scale, which for technical and financial reasons do not really work. It will require moves towards sharing editorial responsibility so as to satisfy the needs of the doctors—general practitioners, specialists, and medical scientists and through them the patients of Europe.

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Societies

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The history of biomedical organizations in our continent is surprisingly short. Fifteen years ago there was hardly any communication between investigators on a European level. The most important barriers were language difficulties (not only differences in actual linguistics, but also of psychology); distances and borders; lack of communication from country to country; and differences in medical training and research skill. In addition the relatively small size of geographical areas in Europe decreased the possibility of acquiring information through clinical trials. Nevertheless, in the last 15 years we have made considerable progress in Europe. In all I have been able to identify 72 biomedical organizations, of which 59 are mainly concerned with communication, eight with training or research (or both), and five with applied medicine. I will try to give one or two examples of each of these groups and discuss some of their objects and trends of development.

The main object of the societies mainly devoted to the exchange of recent scientific knowledge between members is the organization of regular (as a rule annual) meetings. For example, the history of the European Society for Clinical Investigation shows the trend of developments. This society, which is concerned not with one but with

all aspects of medicine, was founded in 1967. In the first few years its main activities were indeed the organization of an annual meeting which proved increasingly successful. In the next few years the society started to publish a journal, the *European Journal of Clinical Investigation*, and then turned its energy towards training young investigators, first through travelling fellowships in clinical investigation founded by the Wellcome Foundation, and hopefully in the near future by giving training courses for young workers. Here the development was from communication through meetings and a journal towards training. Similar trends, also involving the standardization of techniques or nomenclature, or collaborative research, may be seen in organizations such as the European Association for the Study of Diabetes and the European Society for Clinical Respiratory Physiology.

This group of organizations has made an important contribution to European biomedical thinking. I believe that the present number of societies, theoretically giving rise to at least one European meeting each week throughout the year, strongly suggests that the time has come to decide whether it would not be worthwhile to pool some of the effort and to organize European meetings of the type held in Atlantic City.

The organizations concerned with training or research are generally much bigger than those of the first group. As a rule they are not associations of persons or of national societies, but of institutes.

An interesting organization specifically designed towards multi-disciplinary training is the European Training Programme in Brain and Behaviour Research. This organization, partly founded by the Max-Planck Gesellschaft, Germany, partly by the governments of participating countries, has about 20 participating laboratories, each offering a different training programme. It awards grants to young scientists to be trained in fields other than their own. With a yearly budget of between £100,000 and £200,000 it has in the few years of its existence already given some form of training to nearly 100 investigators.

The European Organization for Research on Treatment of Cancer is an example of an organization mainly devoted to collaborating research, in this instance on treatment. This is done by conducting large screening programmes of potential anti-cancer agents, by organizing clinical co-operative groups to pool results of chemotherapy, and by setting up collaborative research programmes and training courses. This organization is largely financed by the participating institutes, and has a United States Public Health grant to cover expenses of administration and central organization.

The European Molecular Biology Organization, financed by governments of the Common Market countries, is one of the largest. It arranges training courses and research fellowships, and encourages the collaboration between laboratories in different countries. In addition a large central European institute for molecular biology, in which investigators of different countries will work, is now starting in Heidelberg, Germany.

The European organizations mainly concerned with advanced medical care all happen to be in the field of kidney transplantation. The first of these was Eurotransplant with its headquarters in The Netherlands. This organization, founded in 1968, was soon followed by others. Experience with this area of applied medicine on a large international scale has shown that clinical workers are nowadays able and willing to co-operate closely. Without this co-operation this kind of medicine would hardly exist.

Future Developments

I expect the following developments in the near future. Firstly, improvement of communication in all its aspects, including the free movement of man and materials among countries, and the rapid exchange of ideas and data by devices such as Telex. Better ways to organize meetings of European societies will be found, and I suggest that English will continue to be used at least as the common scientific language. Secondly, the rapid expansion of the number of training programmes. Thirdly, an increase in collaborative research where a few laboratories pool both skill and expensive apparatus, or where many institutions join forces to investigate areas of clinical research. Lastly, an increase in the co-operation between hospitals in the area of advanced medical care. Some of the future developments will be enormously costly. On the other hand, as has recently been pointed out by Fudenberg, we would not have witnessed the disappearance of poliomyelitis and tuberculosis, and the decrease of the sequelae of measles and Rh disease in our life-

time, without basic research, at an enormous saving to our economy. We should tell our governments that the funding of ways to stimulate the co-operative science and practice of medicine on a much larger scale than at present is certainly one of the important tasks of the E.E.C.

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Meetings

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Scientific meetings, particularly international ones, are often derided as a form of tourism that does little to advance medical science. Some large congresses deserve this reputation, but I believe that European meetings of medical scientists of different disciplines are an essential component of the construction of the European community of medicine which does not exist at present. Medical meetings serve several purposes.

The most obvious is the exchange of the most recent knowledge concerning the science and practice of medicine. No research worker who aspires to be near the front of his subject can afford not to attend a selection of scientific meetings in his field each year. The second is to raise standards and subject people to informed criticism—a very important function, especially in countries where young research workers are allowed little independence of thought or action. The third function has been described as the “slave market.” Presentation of papers at meetings is one important way that young scientists come to the attention of recruiters in other universities. This function is unimportant in Europe at present because there is little movement of personnel in medicine and science between one country and another, but it may become more important in the future. The fourth function is for the active participants in any field of endeavour in different countries to get to know one another, so that they know who to believe and trust and whom to turn to for advice and training of their own young research workers.

Present Pattern of European Medical Meetings

There are three main patterns of inter-country meetings in Western Europe among medical scientists and practitioners at present.

BILATERAL MEETINGS

This is a common pattern among British national societies on a one-off basis. Frequently these societies have one meeting a year which is held jointly with the National Society of another nearby European country such as the Netherlands or France. The Physiology Society, the British Cardiac Society, and the Pharmacology Society have meetings of this kind, but the problem is that it takes several years to complete one circuit of the national societies with which this relationship exists; thus little continuing contact between investigators results.

A FEDERAL EUROPEAN SOCIETY

This type of society exists in cardiology and biochemistry. The society is not made up of individual members paying subscriptions to it, but is a federation of the national societies in that subject. The executive of such a society is likely to consist of individuals who have already distinguished themselves as officers of their national societies. Such societies may find it difficult to devise a satisfactory method of appraising of papers submitted to them by member societies and this standard is variable and sometimes disappointing. Such societies often visit the capital cities of member societies' countries in rotation, more or less irrespective of facilities or cost involved.

EUROPEAN SOCIETY WITH INDIVIDUAL MEMBERSHIP

There are few examples of this type of society, but their number is increasing. Their advantage is that they can achieve an individual