pulse shapes, radio spectra, intensity variations, and complex secondary periodicities, must eventually provide vital evidence to resolve our present uncertainties. There is good reason to believe that the general outline is correct. Simple dynamics shows that the surface magnetic field strength B_o^2 is proportional to $P \frac{dP}{dt}$, where P is the pulsar period, and observations of many pulsar give $B_o \sim 10^8$ T when conventional neutron star models are assumed. Further evidence comes from pulsar ages which are approximately $P \left(\frac{dP}{dt}\right)^{-1}$. Typical ages are 10^6-10^7 years although 10^3 years is obtained for the Crab pulsar, in good agreement with the known age of the supernova.

Conclusion

In outlining the physics of neutron stars, and my good fortune in stumbling upon them, I hope that I have given some idea of the interest and rewards of extending physics beyond the confines of laboratories. These are good times in which to be an astrophysicist. I am also deeply aware of my debt to all my colleagues in the Cavendish Laboratory. Firstly to Sir Martin Ryle for his unique flair in creating so congenial and stimulating a team in which to work. Secondly to Jocelyn Bell for the care, diligence and persistence that led to our discovery so early in the scintillation programme, and finally to my friends who contributed so generously in many aspects of the work.

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Activities of the European Science Foundation

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The absence of any clear-cut programme of work or even an explicit set of immediate objectives obscures the fact that already some years of hard work lie behind the formation of the European Science Foundation (ESF). Two separate initiatives have come together in the process, one starting off in the Council of Ministers of the EEC which instructed the Commission to consider how to coordinate pure research in the common market countries and the other in Scandinavia and the UK which aimed at a closer contact between science research councils in Western European States.

It is to the credit of both groups and to the advantage of all that what has emerged is a broadly based, open-ended society, covering 16 nations with unrestrictive statutes and motivated by a determination to get something done. The countries represented are as follows : Austria, Belgium, Denmark, France, Fed. Rep. of Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Yugoslavia, United Kingdom.

Following the first plenary meeting of the Foundation in Strasbourg on November 18 and 19, the newly elected president, Sir Brian Flowers, emphasised that the immediate problem was not to find suitable subjects, but to establish priorities amongst the plethora of possibilities which presented themselves.

Science in the context of the ESF, it should be stressed, is not confined to the "hard sciences" but extends firmly into the humanities, jurisprudence, social sciences and economics underligned by the fact that of the two vice-presidents, Professor O. Reverdin, president of the Swiss National Scientific Research Foundation, is described as a hellenist and Doctor P. Riis is a medical doctor in Copenhagen.

One of the first questions on the Foundation's agenda was the future of the West European Science Council which had been formed in 1972 and the European Medical Research Council which has also been in existence for some time. Although there is clearly a real overlap with the work of the ESF it was felt that both these two organizations should be continued and a form of association found which would avoid duplication of effort.

Membership

Membership of the Foundation is restricted to research councils and academies which have substantial government backing. The Foundation is not directly sponsored by governments but is only one step away. The idea is to bring together from the participating countries, in one assembly, influential men from science administration and the "elder statesman" of science.

The number of member organizations is not limited and varies according to the infrastructure of the States. Representatives of these bodies make up the Assembly out of which is formed the Executive Council of 18 members, comprising at least one member from each of the countries involved.

In the choice of the president and vice presidents, it is not accidental that the UK, Denmark and Switzerland are represented while the secretary-general is Dr. F. Schneider of the Max-Planck Institute at Munich (Fed. Rep. of Germany) and the offices of the organization will be in Strasbourg (France). It is considered important to maintain a wide geographical representation as well as a wide subject coverage in the governing bodies.

Tribute was paid to the efforts of Dr. Dahrendahl former commissioner for science and research of the European Communities and also to the founding committee under Professor H. Curien whose proposals were formally ratified at the plenary meeting.

Statutes

In the statutes, the principal objects are stated as :

a) *to advance cooperation in basic research ;*
b) *to promote mobility of research workers ;*
c) *to assist the free flow of ideas and information ;*

d) *to facilitate the harmonisation of the basic research activities supported by Member Organizations.*

Further objects are cited as :

e) *to facilitate cooperation in the use of existing facilities ;*
f) *to facilitate cooperation in assessing and executing appropriate projects of major importance ;*
g) *to facilitate cooperation in the provision of expensive specialised services ;*
h) *to make grants for the support of concerted actions and collaborative schemes.*

It is an obligation of the members to provide information about the activities of their organization and to notify the secretary-general of the Foundation, of proposals to undertake projects of major importance.

The Assembly is to meet at least once per year and may invite international organizations to send observers to attend meetings. It is for the Assembly to determine the general policy, procedures and budgets of the Foundation, approve the annual report and the reports of any of the committees set up by the Assembly and take fundamental decisions such as the admission of new members.

The voting rules are complicated, being designed to respect the independence of the smaller nations while taking into account population distributions and at the same time make allowance for the differences of opinion that may exist within a national group. No country may have more than twice the voting power of the smallest.

The Assembly also sets up an Electoral Commission to make recommendations on candidates for president and vice president and positions on the executive council. This commission is composed of one member from each country and is responsible for properly preparing the ground before elections and seeing that candidates have the right background spread.

The Executive Council is elected for a period of three years, one third being re-elected every year. The Council is collectively responsible for the management of the Foundation and may on its own responsibility set up ad hoc Committees to carry out studies or initiate joint activities.

Two categories of activity are foreseen. A "basic activity" is financed from the general budget to which the participating States contribute (in French francs) according to a scale dependent upon their net national revenues. The first year's budget has been agreed at 2MFF.

An "additional activity" is an approved scientific programme or project which is at least in part supported separately by the participating organizations according to a scale they themselves work out. Once the contribution from the general budget has been fixed then it is up to the participants to see that there is no further charge on the Foundation.

First Ideas

At the plenary meeting, once the administrative questions were out of the way, the first brainstorming exchange could get under way. Some 70 representatives were present and a number of topical subjects were pinpointed for serious consideration. Many fall within the general scope of the European Physical Society and its various divisions.

Astronomy was seen to be an area where an effective intervention could be made at this time as so many Western European countries were in the process of making expensive proposals. Here was an opportunity to see that greater use was made of facilities whilst optimizing the way in which available funds were spent.

The mathematical education of scientists was a field in which the collective experience of many States could help to solve a problem of growing concern. The same concern has been echoed in the EPS and is likely to be one of the first preoccupations of the EPS Advisory Committee on Education.

Space research was another field where an independent broad appraisal at some time seemed necessary without in any way imputing criticism of the management or operations of the existing international organization ESRO. Space had to be looked at from a number of standpoints and the Foundation might be in a position to give a new global sense of direction to European research in this domain.

Archaeology was ripe for immediate action as so many new techniques for research had been developed in recent years. There was a clear advantage to all in seeing that these techniques were known and available to the whole of the archaeological research community.

Of growing concern to the population at large was the ethics of social science research as represented for example by the implications of a capacity for "genetic engineering". Here was an interdisciplinary social problem which was at the same time highly technical in content and yet of fundamental signifiance to the man in the street. The Foundation saw in it an area where its own particular breadth of vision in terms of national and scientific background could bring a new light into what so far was a rather murky subject.

Significance to EPS

All these topics involve in one degree or another the work of physicists and, in some cases, overlap directly the field of interest of sections of the EPS. The Foundation which is short of neither money nor enthusiasm does not seem to want to "take over" going concerns. It is, of course, also representative of a smaller Europe than the EPS. It would seem then useful for the EPS to keep a close watch on the evolution of the Foundation with a view to avoiding both competition and duplication. The method of working of the Foundation has still to be worked out in detail and its statutes explicitly state that *"in selecting activities, full and proper account shall be taken of existing activities of other organizations"* and *"it shall cooperate with other organizations in the fulfilment of its objectives"*. It is up to our own EPS to see that these are not just empty words.