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- ** From 1958 (starting date of the first Euratom five-year programme) to 31 December 1971, a total of 823.4 million units of account (1 unit of account = 1 US dollar) was spent on THE IMPLEMENTATION OF THE EUROPEAN ATOMIC ENERGY COMMUNITY'S RESEARCH AND TRAINING PROGRAMMES. A breakdown of these appropriations by research goals and years is given in ANNEX 1.
- ** The representatives of the Community countries' national associations in the AEROSPACE SECTOR, together with an observer from the International Association of Aerospace Equipment Manufacturers, met in Brussels on 19 February 1971 under the auspices of the Commission of the European Communities. As part of the action to be taken on the Commission's memorandum on industrial policy (see "Research and Technology" No. 75), they held a wide-ranging discussion with the Commission experts aimed at defining the problems in this sector and the main lines of proposals to be submitted to the Council for a Community policy designed in particular to improve cooperation between producers and users of aeronautical equipment.

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The information and articles published in this Bulletin concern European scientific cooperation. Hence they are not simply confined to reports on the decisions or views of the Commission of the European Communities, but cover the whole field of questions discussed in circles concerned in European cooperation in science and technology.

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- ** The Commission of the European Communities has invited the West German Government to terminate in North-Rhine-Westphalia the NON-SELECTIVE INVESTMENT GRANTS provided for in Article 32 of the law of 13 May 1968 concerning the adaptation and rationalization of West German collieries and coalfields (Kohlegesetz). Details are given in ANNEX 2.
- ** MOBILITY OF SCIENTISTS is one of the important considerations in a European scientific and technical policy. The Council has therefore instructed the Community Working Party on Scientific and Technical Research Policy (the Aigrain Group) to study methods of securing coordinated training and a more intensive exchange of scientists. A report has been prepared on this question, and a short summary of it is given in ANNEX 3.
- ** Five new TECHNICAL NOTES, each summarizing a result obtained under Euratom research programmes, have been issued by the Commission of the European Communities. The purpose of these texts is to enable industrial firms to assess the prospects for the industrial exploitation of the results described. The subjects of these new technical notes are as follows:
- | | |
|----------|---|
| No. 55/C | Automation of still photography and/or filming |
| No. 56/C | Filming of quasi-static subjects in unfavourable lighting conditions |
| No. 58/C | Automatic empty-vibration device for use in micrography |
| No. 59/C | Viewer for the analysis of films and slides in a wide range of sizes |
| No. 711 | Cylindrical capsule for irradiation specimens |
| No. 863 | Bar-shaped grapple for lifting and conveying tubular fuel elements |
| No. 1450 | Binary-to-decimal code converter. |

- ** In order to promote the use of computers in the private sector, the West German Government may grant aid to the development of COMPUTER SOFTWARE. This follows from the recent decision of the Commission of the European Communities to raise no objection to the implementation of the measures of assistance envisaged by the West German Government provided that there is no discrimination against enterprises whose principal place of business is in another Member State and, of course, that West German government aid is adjusted, when the time comes, to joint solution of the software problem in the Community.
- ** In reply to a written question from Mr Oele, Dutch member of the European Parliament, the Commission of the European Communities points out that THE OIL SECTOR IS CHARACTERIZED BY MARKED DISPARITIES between the commercial policy measures which the various Member States can still apply under the Treaty pending the progressive implementation of the joint commercial policy. In this sector, in which the Community is 95% dependent on external supplies and which accounts for 18% of the Community's external purchases, there is a particularly grave danger of deflection of trade as a result of these disparities.
- ** THE COMMUNITY PAPER INDUSTRY depends for its existence upon supplies of wood. In a recently published paper, the European confederation of pulp, paper and board industries (CEPAC) has therefore emphasized that the Community's wood shortage, which amounted to 44 million cubic metres in 1961, will increase to 90 million cubic metres in 1975 and has asked for a WOOD PRODUCTION POLICY IN THE COMMUNITY.

It will be recalled that although wood is not an agricultural product, and under the terms of the Treaty there can be no joint forestry policy, the Commission of the European Communities, aware of the problem, has already proposed as part of its

agricultural policy the afforestation of four million hectares of cultivated land. It has now taken up this idea again in a proposed directive on agricultural acreage limitation, which was transmitted to the Council on 29 April 1970, and in which it suggests in particular that as far as possible the regional afforestation programmes should lead to the creation of woodland areas of sufficient size to permit rational management and exploitation, and should take into account the prospective markets for wood; this could be considered as the first step towards a Community forestry policy.

** In connection with a research programme initiated by the Commission of the European Communities on chronic respiratory disorders in the Community - affections which among other factors are closely related to atmospheric pollution - the Commission has organized an EPIDEMIOLOGICAL ENQUIRY INTO CHRONIC BRONCHITIC CONDITIONS in the Community. On 1 March 1971, specialists from the Member States will have a meeting in Luxembourg with epidemiologists from other countries who are conducting parallel studies and will discuss the methods to be employed in this enquiry, which will last three years.

** DATA-PROCESSING RESEARCH IN FRANCE: incorporation of the latest available figures, and in particular the turnover statistics for small data-processing units, makes it possible to bring up to date the table which we published in "Research and Technology" No. 87 (dated 23 February 1971). The table now reads as follows:

The Data-Processing Industry in the World at 1 January 1970 (In thousands of millions of French francs, without tax)		
Country	Turnover (Hardware)	Value of installed plant
France	3.3	8.4
West Germany	2.9	9.8
United Kingdom	2.2	8.7
Japan	3.1	8.8
USA	35.0	83.0

ANNEX 1Appropriations for Research and Training Programmes from 1958 to 1971*

	In millions of units of account				
	1958-1968 (two five-year programmes)	1969	1970	1971	TOTALS
<u>Technological research connected with reactor development</u>					
Fast reactors	97.3	1.4	1.5	1.8	102.0
High-temperature gas reactors	50.5	3.2	3.2	3.7	60.6
Heavy-water reactors	176.2	9.4	9.9	11.4	206.9
Proven-type reactors	66.2	-	-	-	66.2
Other types	16.3	-	-	-	16.3
Technological problems	27.0	1.6	1.7	2.0	40.2
Nuclear materials		2.3	2.6	3.0	
Reactor physics	10.6	0.6	0.6	0.7	14.6
Direct conversion		0.6	0.7	0.8	
Irradiated fuel recycling	6.9	-	-	-	6.9
Waste processing	3.0	-	-	-	3.0
Plutonium and transplutonium elements	41.3	4.0	4.5	5.1	54.9
	495.3	23.1	24.7	28.5	571.6
<u>Public service</u>					
Nuclear measurements and standards	22.7	2.9	3.2	3.8	32.6
Data processing and computer centre	15.8	3.3	3.9	4.3	27.3
High-flux irradiations	40.1	3.8	4.2	4.7	52.8
Biology and health protection	20.5	3.5	3.8	4.1	31.9
Radioisotope applications	4.9	0.1	-(a)	-(a)	5.0
Training	3.9	0.5	0.5	0.6	5.5
Dissemination of information	12.2	1.7	-(a)	-(a)	13.9
	120.1	15.8	15.6	17.5	169.0
<u>Oriented basic research</u>					
Fusion and plasma physics	45.4	6.1	6.4	6.6	64.5
Condensed state physics	10.6	2.0	2.3	3.4	18.3
	56.0	8.1	8.7	10.0	82.8
	671.4	47.0	49.0	56.0	823.4

*These appropriations cover both the research conducted in the Joint Research Centre and that done under contract. They represent the actual expenditure up to and including 1969 and the sums earmarked for 1970 and 1971.

(a) As from 1970 the appropriations for the "radioisotope applications" programme and the "dissemination of information" programme are not included in the research budget.

West German Government to Terminate Non-Selective
Investment Grants Under "Kohlegesetz" in Ruhr Region

The Commission of the European Communities has asked the West German Government to terminate in North-Rhine-Westphalia the system of investment grants under Article 32 of the law of 15 May 1968 on the adaptation and rationalization of West German collieries and coalfields (unless such grants are made selectively in the light of the economic and social difficulties experienced by certain areas or localities).

This law, the "Kohlegesetz", introduced an investment grant of 10%, deductible from income or corporation tax, with the aim of inducing industrialists to set up or expand enterprises in regions affected by the coal crisis, and thereby to permit the creation of new opportunities for employment.

The problems which were then facing the West German coalfields (particularly the continual deterioration of the coal market, the exceptionally marked increase in the pithead stocks, the closing of numerous pits and the rise in unemployment) led the Commission at that time to permit the awarding of investment grants for a period which was to be limited to two years.

According to the original estimates, these aid measures would enable 20,000 new jobs to be created between 1968 and 1969. What actually happened was that in North-Rhine-Westphalia alone investment grant applications approved up to 1 October 1970 related to total investments of DM 10,700 million, which should permit the creation of 86,000 new jobs.

In July 1969, the West German Government had, following action in Parliament, extended by two years the period during which investment grants could be made.

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After examining this extension measure in the light of the reasons adduced in 1967 and of recent economic and social trends in the West German coalfields, the Commission has concluded that the non-selective award of investment grants in the coalmining regions of North-Rhine-Westphalia is no longer compatible with the common market. On the other hand, the Commission has not expressed any objections to the application of this aid system for other West German coal areas. The Commission has given the following reasons for its disapproval:

- the situation in the coal sector has changed radically since 1966-1967. Coal stocks had fallen to less than four million tons by the end of 1970. Consumption of pit coal has stabilized;
- the economic situation of North-Rhine-Westphalia has improved; this Land's rate of expansion has reached the federal average and the unemployment rate had fallen from 2.3% in 1967 to 0.4% at the end of 1970;
- furthermore, the non-selective application of the system of investment grants has to a large extent benefited the traditional iron and steel industry instead of encouraging a restructuration aimed at industrial diversification in the Ruhr basin. Nor has it prevented the areas most affected by the coal recession, which are particularly handicapped by infrastructural deficiencies, from being less successful than the others in attracting new industries.

The Commission therefore considers that continuation of the present system of non-selective investment grants in the North-Rhine-Westphalia coalfields would serve to aggravate the disparities in standards of living between the various Community regions, which would be contrary to the public interest and would contravene the aims of the European Economic Community Treaties.

Improving the Mobility of Scientific Workers

(Summary of a report prepared for the Community's Aigrain Committee on Scientific and Technical Research Policy)

The mobility of scientific workers is one of the important considerations in a European scientific and technical policy; it is the factor which can contribute most to the rapid and effective dissemination of ideas and information.

The Council has therefore requested the Community's Aigrain Committee on Scientific and Technical Research Policy to examine ways and means of coordinating training courses and bringing about a more intensive exchange of scientific workers. A report has been prepared.

Although the advantages of the mobility of scientists are widely recognized, various obstacles continue to stand in its way. The following five types can be distinguished:

1. Obstacles due to disparity of training systems

The idiosyncrasy and particularism of national educational systems and the resulting diversity and disparity of training tend to create difficulties on the international level both for scientific workers who wish to complete their training abroad and for those who wish to work in another country. These difficulties arise mainly in connection with the mutual recognition of diplomas and certificates and the assessment of equivalent periods of study. Even when the problem of recognition does not arise formally, the bodies receiving scientists from other countries can experience difficulties in assessing the validity of foreign diplomas.

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In order to lessen these difficulties the governments of the Member States of the Community should take all appropriate steps to ensure a more rapid and effective implementation of the bilateral and multilateral agreements governing the exchange of scientific workers, the equivalence of periods spent on university studies and the recognition of university qualifications. In addition, a certain coordination of university courses would help to harmonize conditions of admission to postgraduate studies, pending the gradual integration of postgraduate studies in a system of European cooperation.

2. Administrative and statutory obstacles

These hinder both the scientific worker who wishes to go abroad and the body which receives him. The difficulties usually concern differences in service regulations, in the case of civil servants, or in the employment contract, and also in the administrative statutes of the universities and public research centres and even the police regulations governing aliens. Residence abroad or the pursuit of a career in another country are looked upon as exceptional situations and hence treated restrictively.

Steps should therefore be taken:

- to safeguard career rights;
- to overcome the partitions between the different social security and pension systems;
- to provide posts in universities for visiting lecturers and research workers;
- to arrange exchanges of officials having scientific responsibilities in Ministries with their opposite numbers in other countries.

3. Financial obstacles

A distinction must be made between the following two types of scientific worker:

- (a) those who go abroad for training purposes. Here the need is to provide a system of grants which is satisfactory as regards both the amount and the methods of awarding and using it;
- (b) those who go abroad to work professionally, either temporarily or permanently. As regards temporary residence, the need is to ensure adequate compensation for the additional effort and outlay entailed by residence abroad, while as regards long-term or permanent residence the aim should be to guarantee a financial situation which does not constitute an obstacle to mobility, and if possible actually encourages it.

4. Psychological and sociological obstacles

The scientist who lives abroad faces a double problem - the break with his home surroundings and the need to adapt to a new environment. The resulting difficulties are linguistic, social (getting accustomed to a foreign environment, accommodation, schooling), and financial (additional expenses due to living abroad).

Adaptability to new surroundings is a question of general education, which should prepare the individual for a wider life, not confined to one country. The best method of doing this is through the systematic teaching of foreign languages. In each university the reception arrangements for foreign scientists should include a crash language course. The problem of the education of the children of scientists residing abroad could be adequately solved by expansion of the European Schools and/or the creation of an international school-leaving certificate. Lastly, in order to

reduce to a minimum the feeling of isolation of the scientific worker living abroad, his home country should keep in regular touch with him and the host country and organization should take all the appropriate steps to encourage his social integration.

5. Obstacles arising from lack of information

The problem has the following two aspects:

- (a) informing of the authorities responsible for preparing and implementing a "policy" of mobility of scientific workers (public authorities, academic authorities, research institutions);
- (b) informing of individuals, i.e., scientific workers who are potential recruits for temporary or permanent posts abroad, together with potential host organizations.

The requisite cooperation between existing national information agencies should be facilitated by the creation of a Community information office whose task would be to cooperate with the national offices in making the following services available to the individuals, bodies, institutions and companies concerned:

- (a) the fullest possible, up-to-date documentation on the possibilities for studying and training abroad;
- (b) accurate information on the value and content of diplomas and certificates of higher studies awarded in the member countries;
- (c) up-to-date documentation on the possibilities of financial aid for stays in member countries, such as study, research and travel grants;
- (d) suitable information on career prospects in member countries.