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Vice-President

of the

Commission of the European Communities

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"Science and Technology and European Market Integration"

US National Academy of Sciences Forum

Washington

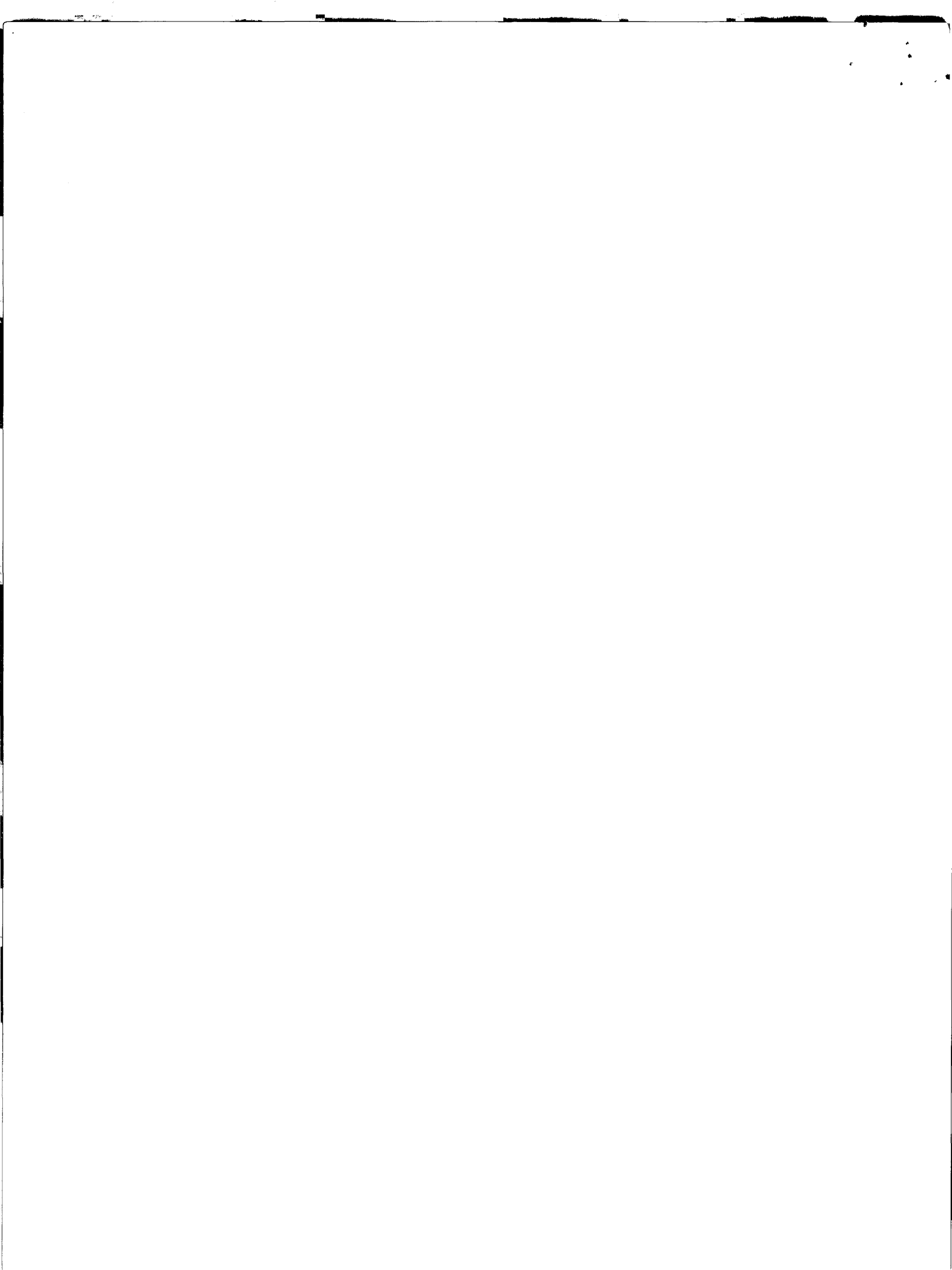
Monday 5 March 1990



Pandolfi speech

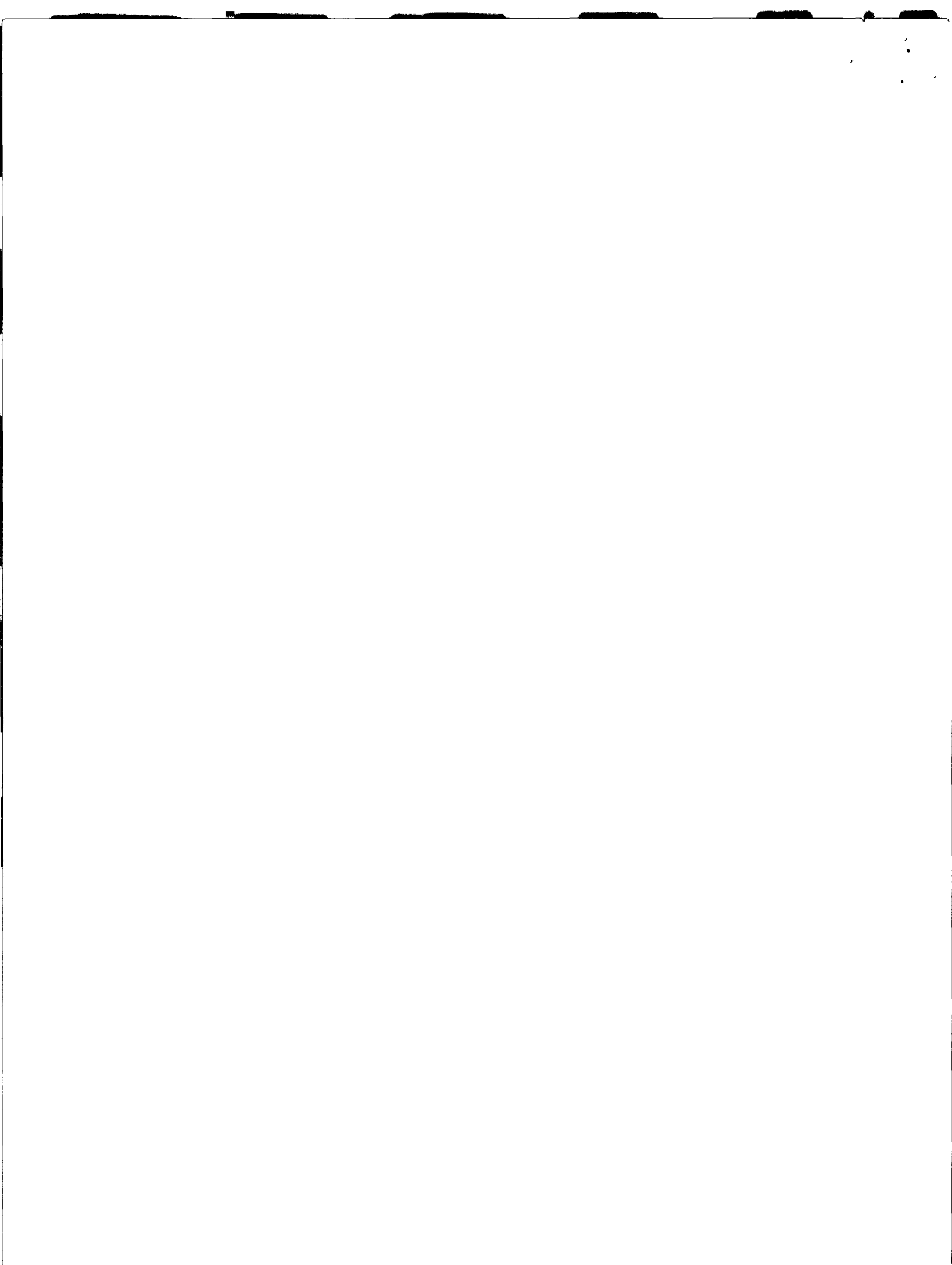
March 5, 1990

Mr Chairman, thank you for having invited me to this important Forum. It is, actually, an excellent occasion, a splendid place, to understand and be understood. To understand and be understood is a mutual need for the European Community and the United States. This is made easier by our roots, which are common, by our political friendship, which is strong. This is made imperative by our new responsibilities, faced with the great events in Central and Eastern Europe. The winds of history are blowing ever more strongly in our favour. Our model of society has come out triumphant and is spreading. Being used to, and constrained by, a difficult exercise in historical patience, we were mistaken about the timing, not the result. The exciting task which now awaits us is to shape the architecture of a new era. We need to understand each other thoroughly to shape it together. Understand each other in every area and on every point, including what we are starting to discuss here and now: Science and Technology and European Market Integration.



The road to the Single Market in 1992 is a complex one. Like all complex processes, it tends to create events that we hope for and events that we fear. It is a typical combination of a bet and a challenge. This is true for everyone. It is true for us Europeans, who are living through this process. It is true for you Americans, who are wondering about this process. I would like to clear up three points straight away.

One. European integration is first and foremost a political fact. It is a fact of historical importance which includes the economic aspect, but goes beyond it. Allow me a quotation. "The European experiment has succeeded not just because it has appealed to the enlightened self-interest of European producers and consumers. This experiment has succeeded because the vision of its founders encompassed and yet transcended the material. This experiment has succeeded because it also held out the higher goal of political as well as economic barriers overcome, that is of a Europe United. This was the goal of Monnet and Schuman. This was the goal supported by the United States of Marshall and Acheson. This was the goal contained in the Treaty of Rome and more recently in the Single European Act. The United States supports this goal today with the same energy that it did 40 years ago." These, you will understand, are not the



words of a European. They are the words of Secretary of State James Baker in Berlin on the 12th of December 1989.

Two. The nature of the Single Market is inseparable from the concept of liberalization. The movement towards the 1992 goal may seem like a pure process of integration and aggregation. This is what it is not. If you will allow me to use a scientific metaphor to such an august gathering, I think of the Single Market in terms of a parallelogram of forces. The push towards the Single Market is the result of two forces: integration and harmonization on the one hand; deregulation and liberalization on the other. Neither of these vectors alone would have the strength to carry the Single Market to completion. Creating a unified market by itself does not mean that Europe will set off in the right direction. We have to combine the integration of the market with measures to liberalize the market. And this is what we are doing. Then the resultant force and the direction in which it pulls Europe is all the more effective.

Three. The economy of the 12 European states is an economy particularly open to trade. The percentage of imports in our GDP is much higher than for the other two great trading blocs. In 1989 imports of goods into the 12 Member States

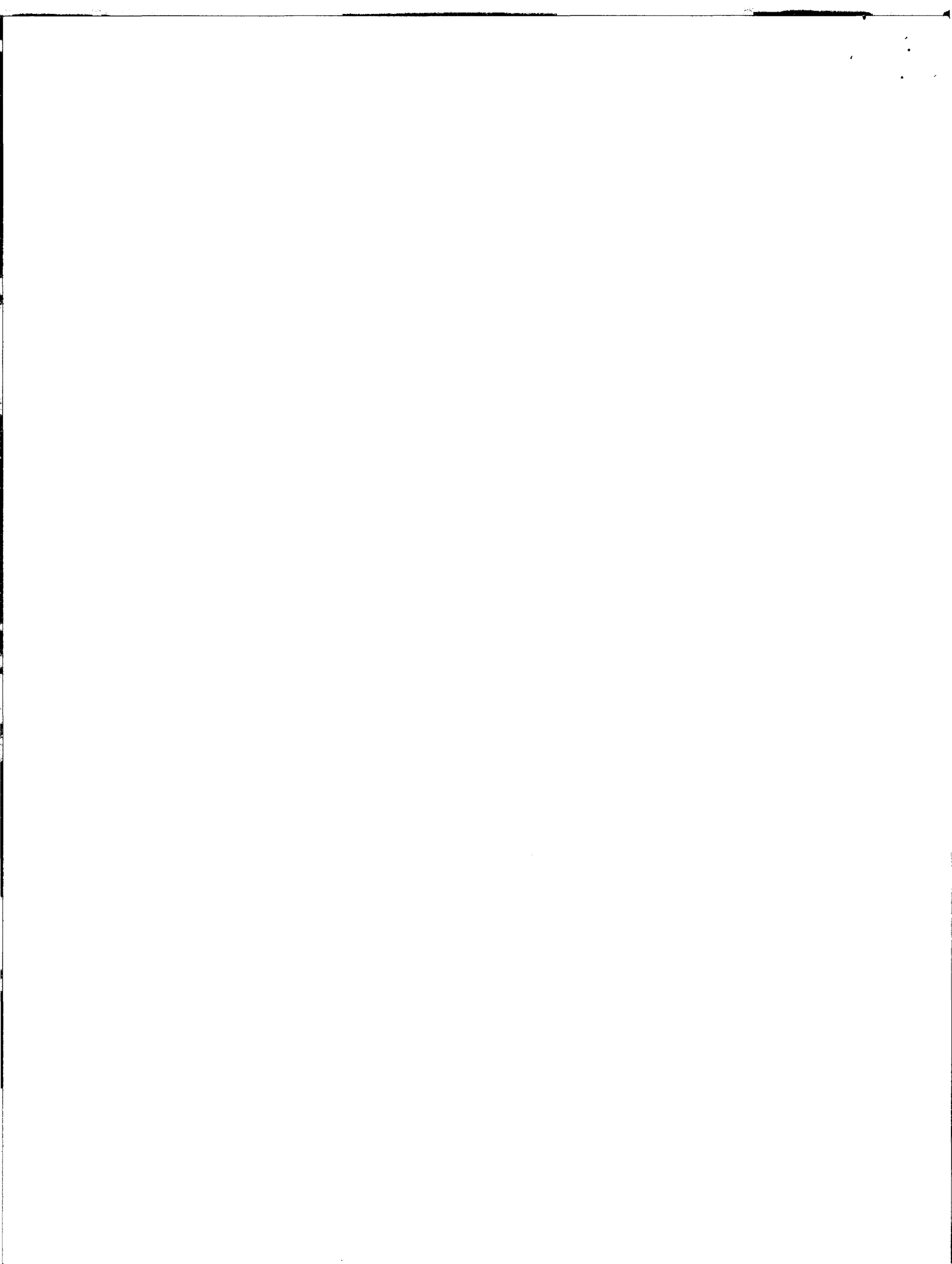




ran to 1,100 billion dollars. The corresponding figure for the U.S. was 480 billion dollars and for Japan 190 billion dollars. This comparison is something of an oversimplification. We need to take intra-Community imports into account. But we also need to take into account the structural trends which can give a push to substituting intra-Community imports by imports from outside the Community. One thing is certain, though. The strengthening of Europe's economy through the Single Market will bring about increased demand to be put at the disposal of the whole world. It is difficult for me to resist the temptation to quote again from James Baker's speech. "We think that Americans will profit from access to a Single European Market just as Europeans have long profited from their access to a single American market. However, it is vital to us all -- vital to us all that both these markets remain open -- and indeed that both become even more open".

These first thoughts have touched on the history, nature and reality of the European Single Market. How far we are from the idea of shutting ourselves in defensively!

It seems to me that, far from fearing a Single European Market, it should be welcomed by those who believe in free



trade. Because success in trading depends on having trading partners who are wealthy enough to be able to buy one's goods - and the studies we have performed show conclusively that Europe will be all the poorer without the removal of internal barriers.

After 1992, the Single Market will help companies to recover the costs, included spiralling costs associated with R & D. But what is true for European companies is also true for American and Japanese ones. The Single Market has been described as "a present for none but an opportunity for all." We shall all be obliged to work harder to exploit that opportunity.

And now, to concentrate on science and technology, what does 1992 mean for research activities? What does it mean, through the research activities, for industrial and economic environment?

To express my views on those points, I take as a starting point the Single European Act. It represents the major update to the Treaties underpinning the European Communities, signed in early 1986, it came into force in June 1987.



The consequences of this Act, and of the concrete steps taken by us to implement it, can be summarized as follows:

- an enhancement of the decision making system of the Communities, increasing the role of the European Parliament, and providing for more majority voting in the Council of Ministers
  
- a major boost to integration in the political as well as the economic and monetary sphere, and to social and regional cohesion
  
- a fixed time schedule for completion of the internal market (and this is where the magic number "1992" comes from)
  
- specifically, the recognition of science and technology policy as an important and separate element of Community policy as a whole.

I want to be precise on this last point. The Single European Act has inserted a whole Title, Title 6th "Research and technological development", into the Treaty of Rome. The first of the Articles of this Title says clearly: "The Community's aim shall be to strengthen the scientific and



technological basis of European industry and to encourage it to become more competitive at international level". Having in mind some controversial disputes on this subject, I want to underline that the Single European Act does not envisage an "industry policy". It does not envisage it neither in this Title nor anywhere else. It simply but strongly shapes an R & D Community policy. Let me add that this policy implies a support to the pre-competitive research only. This is not the case, as you know, of the policies implemented by some of the Member States of the Community.

While we are on national and Community policies, let me say that we have now recognized that we should achieve critical mass through combining our national strengths in cooperative efforts at the European level. Only in this way can one afford the huge investments needed to come up with competitive solutions in high-technology sectors such as telecommunications, or face the need for multi-disciplinary research in a subject as environment, to name but a few examples.

The Framework Programme for Research and Technological Development is nothing more or nothing less than the main instrument of this policy of combining strengths and achieving critical mass in leading edge technologies at Community level.





Now, perhaps most of you will be familiar with the existence of the Framework Programme and its main characteristics:

- it covers a period of 5 years, with a rolling revision;
- it is decided by unanimity in the Council of Ministers of the Community;
- It is composed of a number of actions with indicative budgets;
- for each action there is one or more specific programmes of pre-competitive and pre-normative, trans-national, cooperative research;
- each of these programmes may be decided in Council by qualified majority voting.

Let me, therefore, restrict myself to pointing out that last December we took advantage of the mid-term review of the Framework Programme then running, in order to face up to the new perception of priorities both within the Member States of the Community and vis-a-vis the outside world. We proposed, and in principle got accepted by the Council, a third Framework Programme (1990 - 1994) with considerable streamlining in its specific programmes (15 instead of 37) and a more flexible planning and budgeting cycle.



Within that Framework Programme, an important part (over 1/3) is taken by information and communication technologies. The other actions are: industrial and materials technologies, environment, life sciences, energy and human resources. Some of these (especially environment) have acquired greater importance in the last few years. This is reflected in the new arrangements. In this connection, I should like to stress that information and communication technologies are not only important in a narrow, sectorial sense. They pervade, in a "horizontal" way, many other sectors in order to make them more efficient and competitive.

The overall budget for the activities related to the Third Framework Programme in the next five years is 5.7 billion ECU, approximately 7 billion dollars. Taking into account the financial resources forecast for the first two years of the period under the provisions of the Second Framework Programme, the two figures become respectively 8.8 billion ECU and 10.5 billion dollars.

A word perhaps about the "rules of the game". I think there are many misunderstandings about those. It has always been our intention to strike a correct balance here between the role and responsibility of the public authorities, on Community and national level, and those of the industry and other participants. I think that we have successfully struck that balance in more than one way.



- First of all, as I have pointed out before, we only do at Community level what is not possible at national level.
  
- Secondly, we involve industry and other potential participants intensely in the definition of the subjects and work programmes; of course we take responsibility ourselves for proposing the specific programmes to the Council.
  
- Thirdly, we fund participation in our programmes at a maximum of 50% as a rule; enough to make the participants decide on their cooperation a little bit quicker than they would have done with less or no funding, but not so much that they are willing to depart from what they see as their proper business interest -- and one of our strong beliefs is that industry is the best judge of its own interest all around.
  
- Finally, our rules on industrial property protection and exploitation rights are designed to give a maximum incentive to industry to participate and obtain the benefits of their participation. Every participant within a project has access to all the results derived from the work in that project ("multiplier effect"); at the same time, through the obligation to exploit, we ensure that when the R & D has been done, the European market will in the end benefit from the results in the form of better products and processes.



It is necessary now to consider a broader horizon, to examine other aspects of the inter-relation between European market integration and R & D matters.

The most important issues in this context are standards and technical regulations, intellectual property rights; and the openness of the research system itself. I will deal with these in reverse order.

First, the openness of the research system. Let me at the outset stress that the conditions for participating in E.C. research programmes are completely transparent and non-discriminatory with respect to Community-based organizations with foreign parentage. If they can comply with the rules that say, in essence, that the work is to be done in the Community, by two or more firms which are not established in the same Member State, and is to be exploited in Europe, they are treated exactly as firms with Community ownership.

Of course, we aim to achieve maximum benefit for Europe from the taxpayer's money invested in these projects. But benefit for Europe does not have to mean "to the detriment of anybody else".



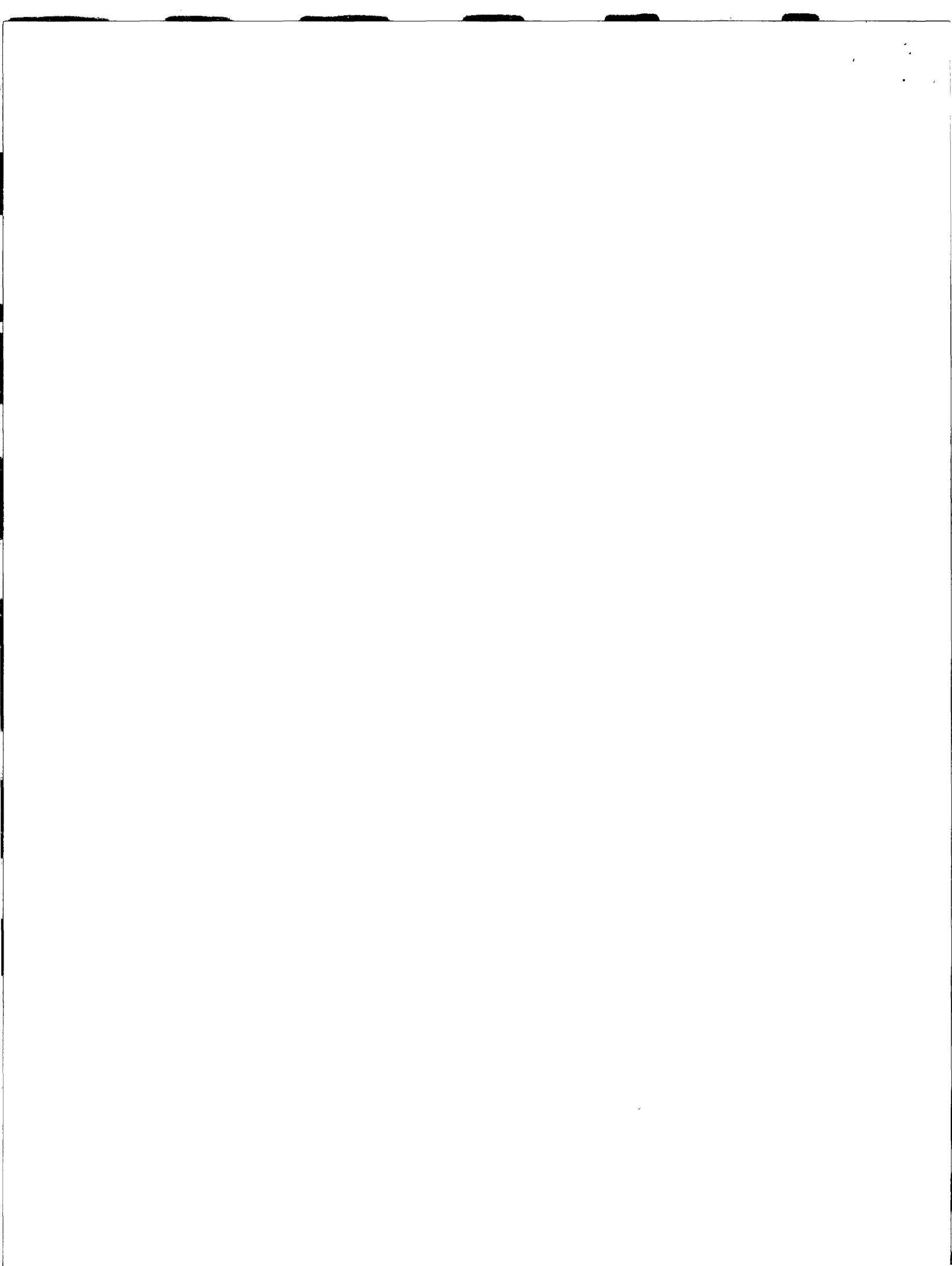


In this, we may take as a guideline the General Framework of Principles for International Cooperation in Science and Technology, adopted in May 1988 by the O.E.C.D. Council. This recognizes that growth and development of all countries increasingly depend on advances in science and technology, which require both a sustained research effort and the widest possible circulation of ideas and information.

Looking at the particular case of the European Community and the United States, for the moment, the situation is not fully satisfactory. By way of example, the participation in our programmes by E.C.-based firms, with U.S. ownership or control, is now as high as 1.5%. On the other hand, only 0.18% of U.S. publicly funded R & D goes to U.S.-based, but non-U.S. owned or controlled organizations.

Turning now to the protection of intellectual property rights, we firmly believe that intellectual property protection rules should make a contribution to technology transfer rather than act as an impediment to it.

Dissemination of knowledge should be carefully weighed against legitimate returns due to those who invest in research and development. Some problems have emerged about IPR clauses in agreements, related to traditional areas of E.C. - U.S. cooperation when those have come up for renewal. I am confident that in the end a mutually acceptable solution will be found for these problems.



On the third issue I mentioned, it should come as no surprise that standards and technical regulations are of such importance to completing the internal market. The absence of homogeneous standards and regulations has been identified by the European business community as one of the most important barriers to achieving the Single Market.

In 1983 the Community adopted the "new approach" in standardisation which predates the Single European Act and the drive for 1992 by several years. You may take this as evidence of the fact that already back then we were fully aware that an effective and streamlined standardization mechanism was absolutely essential for true market integration. I think one can say with some justification that already this approach has yielded considerable benefits for all those who operate on the European market, by reducing technical barriers to trade.

This new approach has permitted considerable progress to be made in a number of areas. Among these has been the area of telecommunications, in particular terminal equipment.

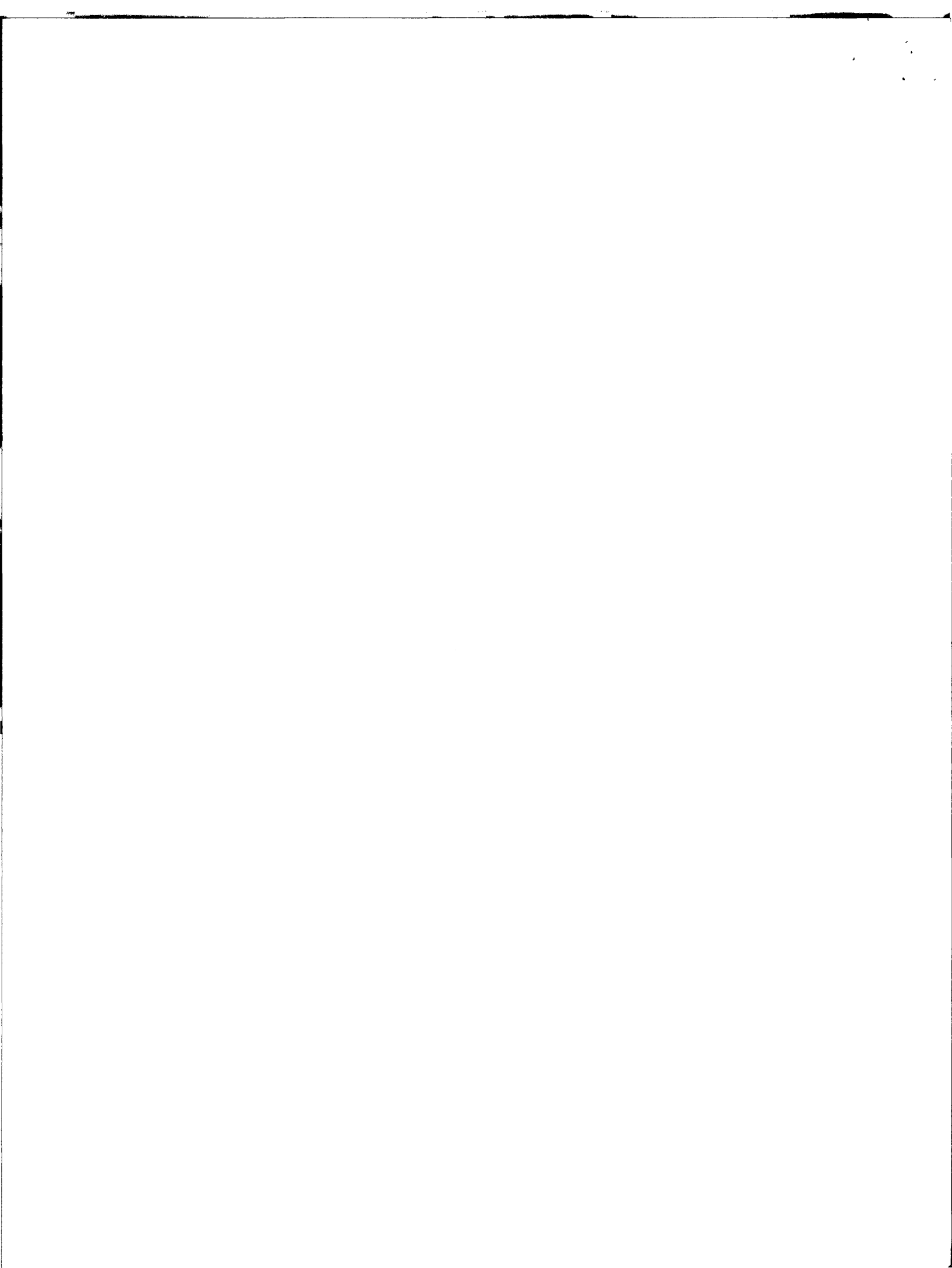
Mr. Chairman, while we are on the subject of telecommunications, let me digress a little and comment on the U.S. government's application of certain provisions of the 1988 Trade Act to telecommunications.



The Community is engaged in a comprehensive programme of liberalization and harmonization for this sector, which was first announced in the Commission's "Green Paper" of 1987. Since then, we have made a lot of progress and various legislative initiatives are completed or well advanced. These include opening up the terminal equipment market to full competition; legislative work on Open Network Provision; a Directive on telecommunications services.

We see success in accomplishing this programme as a vital element in meeting the twin challenges of "1992" and of technological development in this crucial sector of the economy. In Europe, the telecommunications sector has long been a sector excluded from competition rules and market opening measures and is only now going to be addressed in the Uruguay Round of GATT. The GATT negotiations are the logical counterpart to the Community's own liberalization drive. You may, then, understand our disappointment when, under the 1988 Trade Act, the Community was put on the priority list for negotiating the elimination of barriers to U.S. exports. This was in early 1989. The U.S.T.R. has had a number of exchanges of views and information with us, that were qualified by both sides as very useful.

Regrettably the procedure under the Telecommunications Trade Act has not yet been concluded. I am glad to say, however,



that a new spirit is now pervading this exercise. In a letter written to me a few days ago by Ambassador Carla Hills, the U.S.T.R. recognizes explicitly that "the European Community has made solid progress in realizing a more open and competitive telecommunications market in Europe." This seems to me very important.

I hope the things I have presented have well served to clarify, explain and illustrate. But now is the time to make proposals. A visit such as the one I have the pleasure of making will not amount to much, unless it leaves on the ground a visible trace of its passage. I am referring to the ground of scientific and technological collaboration between the European Community and the United States. It is fertile ground, but perhaps not cultivated enough. We must do more, we must cultivate it more intensively.

I will purposely leave to one side, for the moment, the ambitious prospect of a new cooperation agreement or cooperation agreements on R & D between the European Community and the United States. Article 130 N of the E.E.C. Treaty, as amended by the Single European Act of 1987, provides the legal basis for such an agreement. The new framework programme for 1990 - 1994 and the specific programmes which will follow provide the factual basis. So, there are possibilities. But we need to build the



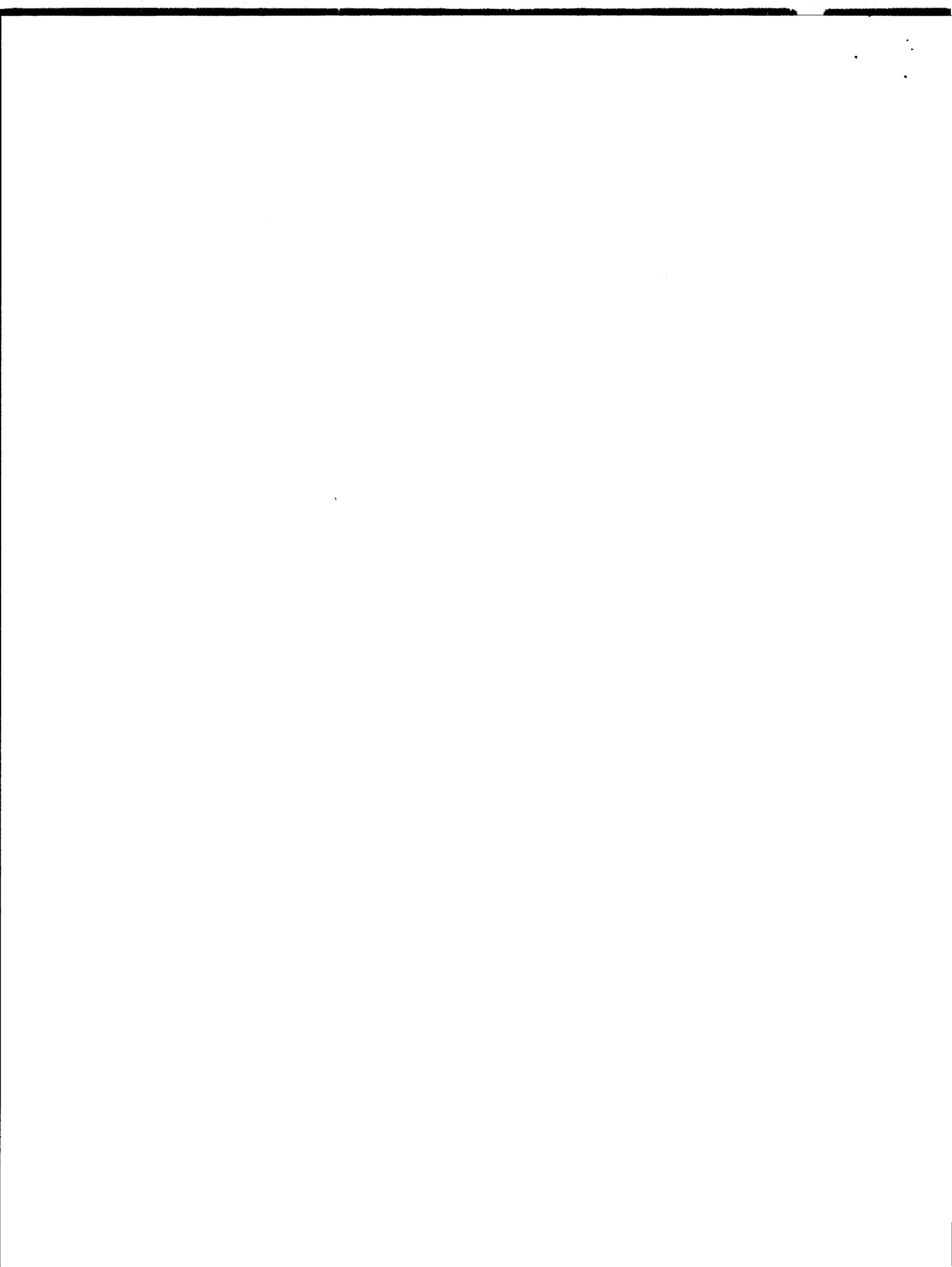


preconditions. Let's keep the main aim in sight, but start straight away to work on well defined points.

I propose that we concentrate on 5 priority areas through appropriate forms of joint work. These must be explored in depth in a sufficiently short time with a commitment aimed at "decision making".

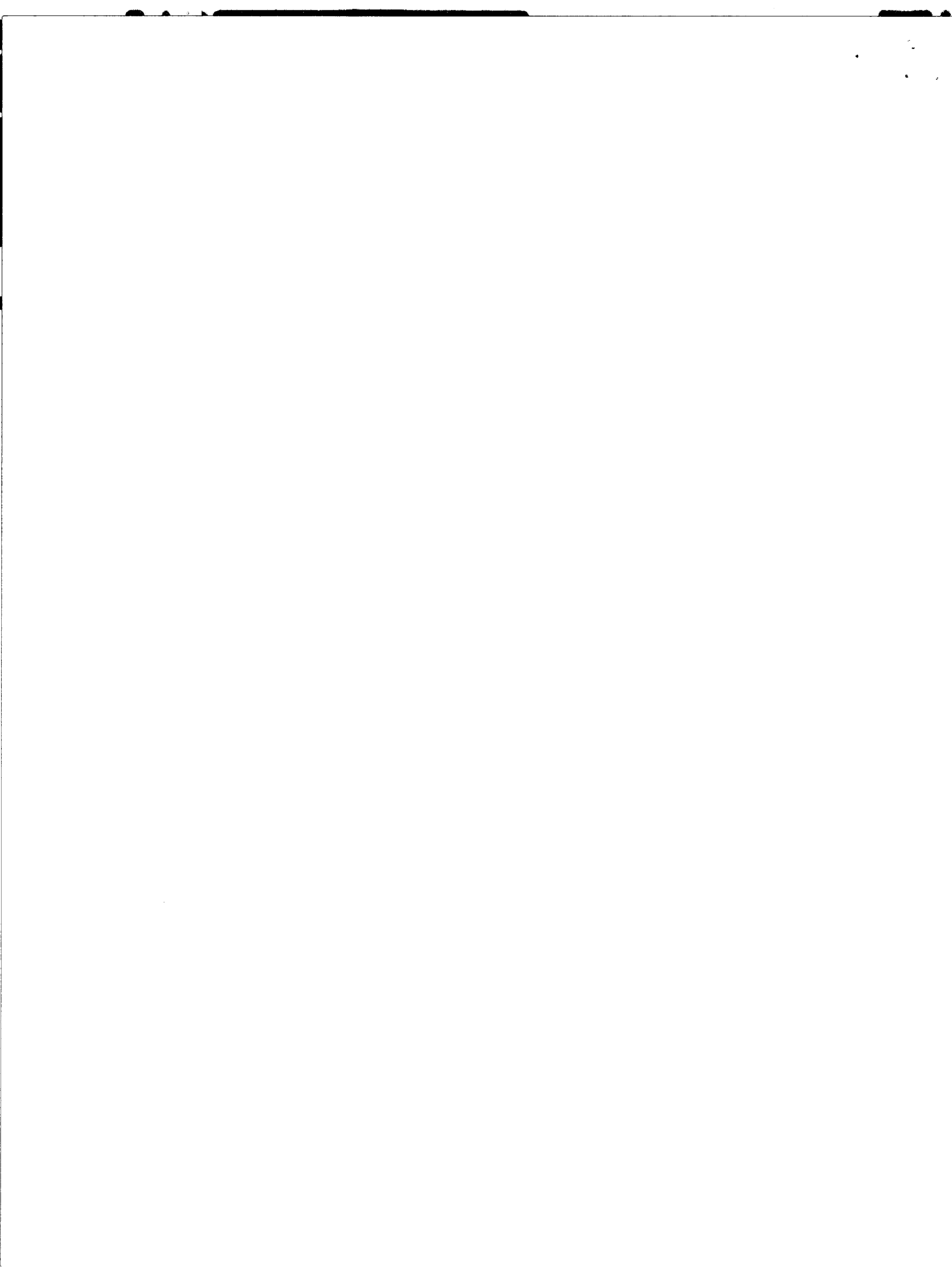
First. Information technologies. Important new moves towards E.C. - U.S. cooperation by companies are taking place. I remind you of the I.B.M. America - Siemens agreement on semiconductors. On both sides, though, things are moving more slowly in the area of publicly-funded programmes. There is still asymmetry. There is still a shadow of diffidence. Taking as a term of reference the network of the participants to the ESPRIT programme on the Community side and the network of Engineering Research Centers on the U.S. side, I propose that we study determinedly and in depth any realistic possibility of collaborating. According to many people, definite areas and specific points for possible cooperation exist. We have to identify them.

Second. Prenormative research in the biotechnology sector. The areas in which public authorities are called upon to exercise their legislative or regulatory powers are becoming



even wider. Health, safety and environmental protection are among these areas. This is the case with bioengineering. We need to fix disciplines and set rules for the release of genetically-modified organisms. On this point, the European Community is badly behind the United States. This determines a disadvantage to American industries who are deprived of the possibility of access to the European market. Fixing rules or improving those already in existence implies a preliminary research activity - we can call it pre-normative - to have a solid and sound scientific basis. Getting together with a view to cooperating: this is our proposal. Avoiding duplications, speeding up results, increasing reliability: these are our aims.

Third. Energy and environment. I am not referring to the usual subject of the constraints closely connected with the production of energy and the need to protect the environment. I am referring to a newer and, in a certain way, more radical subject. It's a question of working on an overall cost/benefit balance sheet. It is a question of constructing models, combining the scientific and the economic approach, that include a larger series of variables than we have used up to now. It's a question of conceiving schemes for wider geographical areas than we have up to now, continental and intercontinental, as is the case for acid rains. In this area, international cooperation is a must.



Cooperation between the E.C. and U.S. must not be exclusive. It must be driving force.

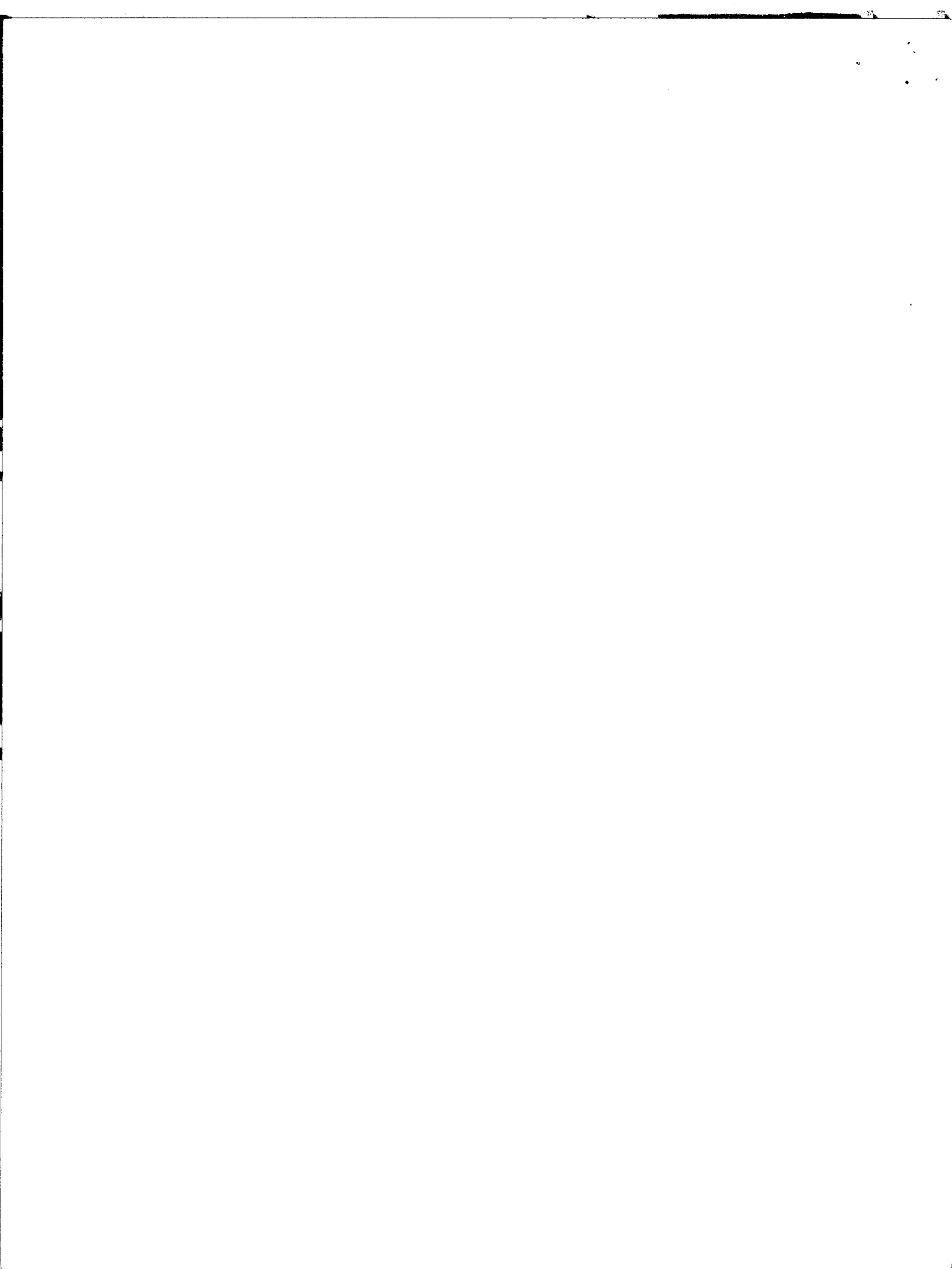
Fourth. Research and technological development with and for the countries of Eastern Europe. It would be a mistake to think of possible and welcome initiatives in this area as a simple extension of existing activities along wellknown lines of research. We must identify specific emergencies, like the environmental one, and specific needs. We must develop programmes whose aim is the transfer of technologies, targeted rather than advanced, capable of facilitating and speeding up the recovery of productivity in a context of widespread obsolescence. We need to favour progress towards a market economy in this way. Concerted action between the two sides of the Atlantic will give more impetus to the initiatives of the Group of 24 (G 24). Through this action, it will be possible to use better the room for manoeuvre which is progressively opening up as the COCOM restrictions are eased.

Fifth. Large scale scientific projects. We propose a regular exchange of views, in order to arrive at common approaches in a number of very expensive large-scale initiatives. The list of such initiatives includes: global change, the human genome, fusion, high energy physics and SSC, space stations, deep sea research stations, deep



drilling on land. Research on the subject to global change and the human genome could be carried out through networks of many centers; the other initiatives require a highly expensive concentration of effort in large research facilities. Within this list we need to make a selection, fix realistic targets, establish ways of cooperating. We will take existing priorities into account. I would like to mention that, among the priorities we have already agreed upon is the Global Change Programme. We warmly welcome the initiative of President Bush in holding a "White House Conference on Science and Economic Research related to Global Change" on 17 - 18 April this year.

These, then, are five concrete examples of possible concertation and cooperation between the United States and the European Community. We propose that these should be explored and tried out. The list is neither binding nor exhaustive. We should take on board the biblical message: "Try everything, keep what is good". What is important is for us to sit around the same table, to share the same aims, to speak the same language. And to speak to each other; for I have the impression that we have not communicated enough. Incidentally, why not set up a joint permanent task force? I had the pleasure to discuss this issue with M. Bromley this morning.

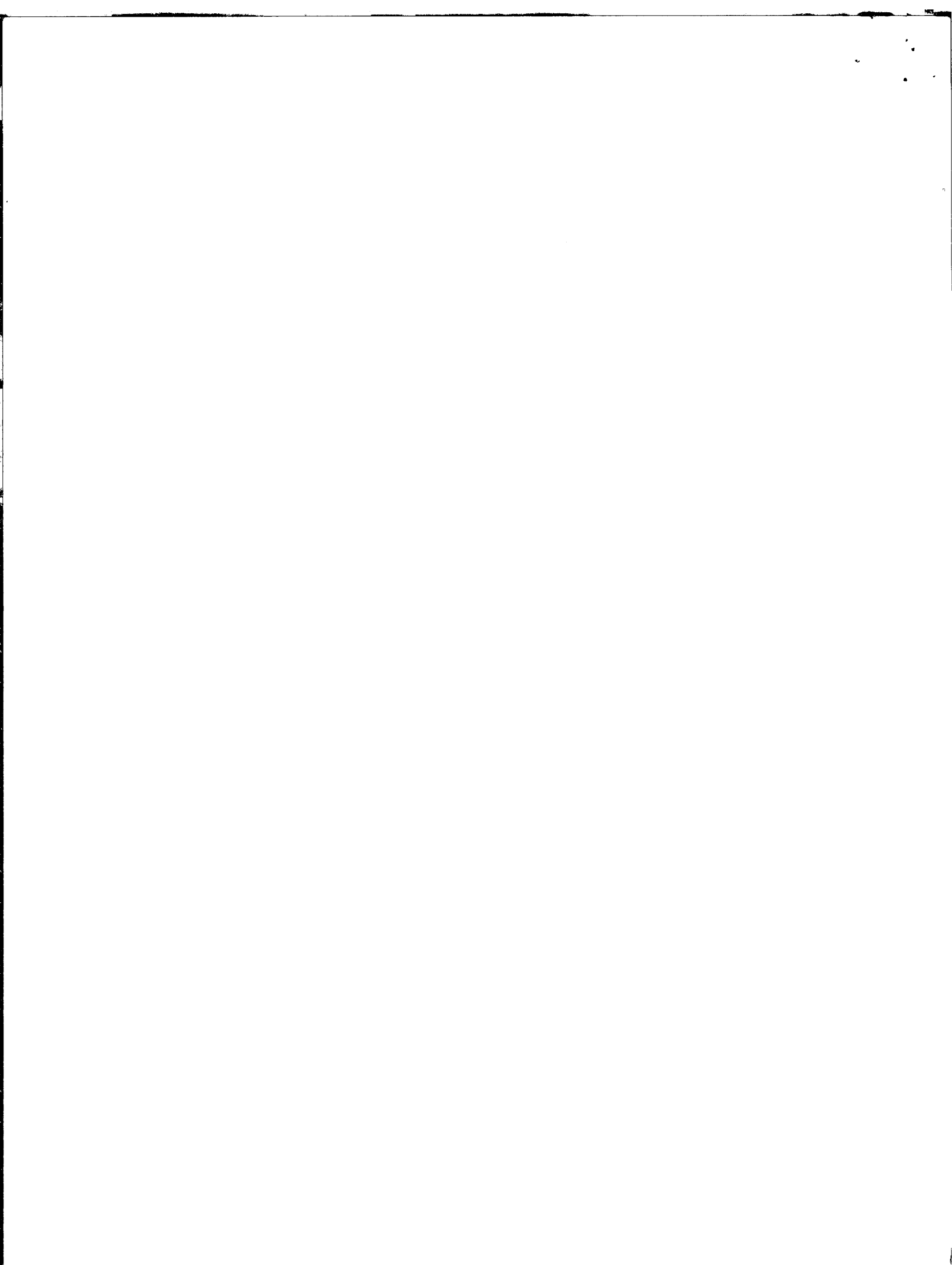




By talking more and sharing this first exploratory work, we may be helped to face two problems which crop up and rightly worry both the authorities and the scientific community in this country. The first is an institutional problem, the second is a problem of human resources.

The institutional problem is that of the shift in Europe of the center of gravity in research activities from the Member States towards the Community and its programmes. Right now, only 3 percent of the total funding for research in the 12 countries is accounted for by Community funding. Right now, the Community acts according to the "subsidiarity" principle, the modern equivalent of the "jus suppletivum" of medieval law: what can be done at the level of the Member States is best done by the Member States, what they cannot do by themselves is done by the Community. At the moment, then, this is how it is. But what of tomorrow?

How will the current structure of multi-bilateral relationships between the two sides of the Atlantic change? Will we succeed in understanding each other on the crucial questions? These are the important issues for our American partners and friends, for the scientific community and for the business community itself.

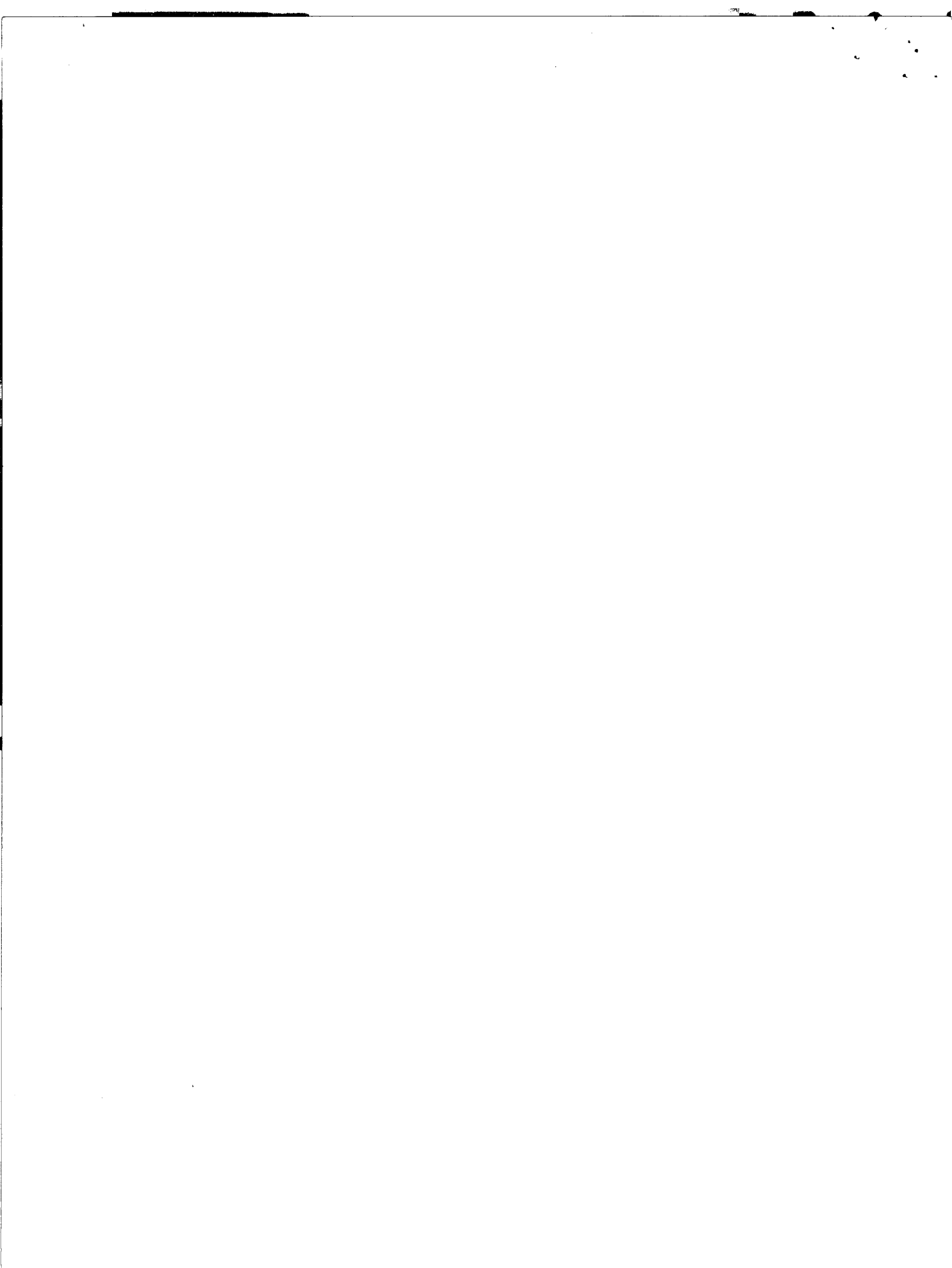


The second problem touches on human capital and its mobility. This is an ever more essential factor in research activities. The whole world, and particularly we in Europe, knows what role the United States has played in preserving and increasing the human heritage in research. It has done this through the good times and through the bad times. We can never forget this.

On this point, there is now a stronger sensitivity in the countries of the E.C. on the need for more intra-Community exchange, particularly at the level of young researchers. This is natural. One of the new initiatives of the 1990/1994 framework programme deals precisely with the mobility of young researchers at post-doctoral level. I can well understand that, even on this point, questions will be arising in the minds of our American friends. What effect will the Community initiatives have? Will there be undesirable repercussions for the United States?

To sum up, what do we do?

Mr Chairman, ladies and gentlemen, for the two problems I have raised and for others both known and unknown, the answer is not to stop the clock. Processes like European economic and political integration answer to the demands of history. The great merit of the U.S. is in recognizing and



supporting them. I stressed this right at the beginning. The solution is not to be found in unilateralism, either. This is the way for those who succumb to the temptation of going it alone in the sure knowledge that their reasoning is right, but deaf to the sound reasoning of others. We must not, we do not want to take this road.

The answer to our problems lies in the practical recognition, in word and deed, of our interdependence. We are to all intents and purposes interdependent in science and technology as well. I have come here to say this to you. I have come here to learn this from you. I have come here because we can work together better on this basis.

Science and technology are progressing. Markets are integrating. New ambitions are emerging. But the humble and great task which Thomas Jefferson gave to his fellow American citizens two centuries ago remains valid for always and for everyone: "Cultivate peace and commerce with all."

