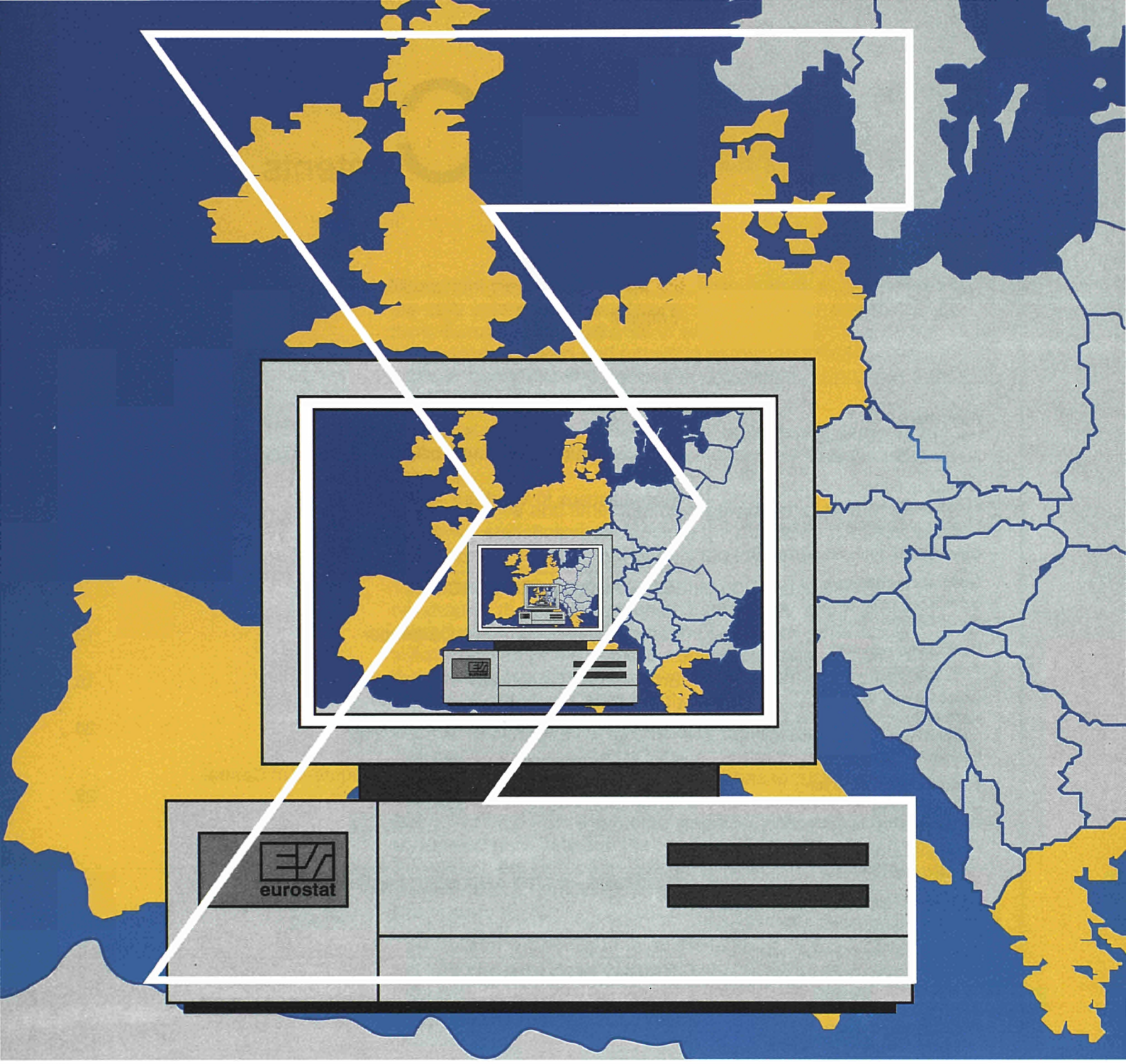

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EDITORIAL

Maastricht clearly underlined the need to bring Europe closer to the daily existence of its citizens. The ambitious programme of trans-European networks fits in with this constant search for transparency, speed and proximity to help all those involved in political, economic and social affairs communicate better with each other.

Statistical information, ably assisted by audiovisual media to make it increasingly attractive, has a key role to play in this process.

Since distance and time take on a new dimension with these networks, statistics should look to the past in its constant efforts to explain the present and predict the future.

The introduction of networks should go hand in hand with an overhaul of the organizations and structures, and this poses design problems which need to be tackled by large-scale initiatives. The whole of the European statistical system, both those who produce and those who use future electronic data, should be organized accordingly.

In order to carry out its specific task of disseminating statistical information to European citizens, enterprises and all involved in economic and social affairs, Eurostat has to make use of effective and appropriate means of communication, and to do so it is asking for help from the media, especially the press. The dialogue conducted here between the top tiers responsible for official statistics in the European Economic Area and representatives from the press reflects a conscious policy on the part of the Commission.

This bulletin will continue to examine ways of opening up the transmission of statistical information, which is more essential than ever for the smooth operation of all our democracies.

François de Geuser
Chief editor
Head of the Unit 'Public relations, dissemination and statistical digests'

STATISTICS, AUDIOVISUAL, NETWORKING

Interview with Mr João de Deus Pinheiro

With the introduction of trans-European networks, everyone involved in the economic, political and social life of Europe will be better able to communicate and be informed. Fascinating statistical information will become increasingly available to one and all. Audiovisual resources — a sector where the demand for statistics is constantly growing — will have an invaluable part to play in all these developments.

João de Deus Pinheiro took a first degree in chemical engineering at the IST in Portugal, before going on to Birmingham University where he gained an M.Sc. in chemical engineering and a Ph.D. in engineering science. He also has qualifications in engineering science from the University of Minho in Portugal and was awarded a D.Sc. in engineering by Birmingham University. He is Professor of Engineering Science at the University of Minho. He was appointed Vice-Rector of the university in 1984, after heading the Department of Planning and the Engineering School and serving as State Secretary for Education and School Administration and as Vice-President of the National Council for Scientific and Technological Research. He subsequently became Minister for Education, Minister for Education and Culture and Minister for Foreign Affairs. He was elected to the Portuguese Parliament to represent Viana do Castelo in 1985 and Porto in 1987 and 1991. In 1991 he also became President of the Committee of Ministers of the Council of Europe and Honorary President of the Council of Ministers of NATO. He served as President-in-Office of the Council of Ministers of the European Communities in 1992, before becoming a Member of the Commission in 1993. His special responsibilities as Commissioner include relations with the European Parliament, relations with the Member States on transparency, communication and information, culture and audiovisual policy, and the Office for Official Publications.

GETTING STATISTICS KNOWN

The European statistical system is a massive information service provided for those involved with economic and social policy or with Community, national or international policies, for teachers and research workers, for the press, for economic and social study organizations — and for the general public as well.

Ordinary people need clear and straightforward information which is user-friendly and readily available. 'The language and documents used for information and communication must take account of the range of public opinion and cultural backgrounds (...) Language used (...) must also be as free of jargon as possible.'[1]

This recommendation naturally also applies to statistical information. What can users expect from the introduction of trans-European networks, especially in the audiovisual sector?

Coming closer

'Reliable statistics are an invaluable aid to decision-making. Major errors are caused if statistics are not reliable. The statistical offices and Eurostat do a remarkable job, and the stature of the European statistical system (ESS) is growing day by day.

But we also have to see to it that statistics come closer to those who, in one way or another, are responsible for taking the decisions in our democracies. Also, as far as the general public is concerned, statistical information is sometimes so compact and concentrated that it is not always easily accessible. We are therefore grateful for the efforts of Eurostat and the NSIs to get their services better known and to make statistical information more open and accessible in its appeal to the man in the street.

In this regard, the introduction of networks is a vital necessity for European integration. Separate

decision-making centres need a focal point where they can meet and converge.'[2]

Tapping the right source

'The Commission has to respond to the needs of the citizen when setting its political priorities and communicating its decisions. The Commission must therefore refine existing means of evaluating attitudes and trends in opinion in the Member States and elsewhere and develop new methods to ensure an adequate exploitation of this new material.'[1]

Statistics is in fact a 'raw material'. But you have to tap the right source. 'As far as culture and audiovisual matters are concerned, it often happens that we are looking for some statistical data for the Twelve and we realize that, if they cannot be found at Eurostat, they are not going to be found anywhere. We should like to see broader coverage of this particular field by the ESS; it would be a tremendous boon to us.'[2]

Getting a statistical picture of the information market and networking, especially where audiovisual applications are concerned, needs the skills which Eurostat, together with its partners, can supply. With its authority from the institutions and the Member States, and the meticulous skills of its experts, the Statistical Office has the facilities and resources, especially in the legislative area, to devise and implement relevant methods and concepts, which are of undeniable scientific quality and compatible with international standards, for these vast new fields.

INVESTING IN THE FUTURE

The future of young people in Europe

What will tomorrow bring for today's young Europeans? What are they going to do? What direction are they going to take? What is Europe going to offer them in the coming years? What changes are there going to be with regard to jobs, industrial conversion, the environment, migration, the new pattern of human activities, energy sources, etc? What kind of planet are we going to leave to them? What are the new challenges, and the new threats? One of the virtues of statistics is how it can teach us; it can organize information and relate it to time and space. Does this not mean that it has a special role in the area of education and training?

'Quite right! Statistics could really find a niche there. Critical study of what it teaches can be very useful for young people. Even more than their parents of today, these citizens of tomorrow need to get to grips with a lot of crucial information, which unfortunately all too often seems technical to the general public. Apart from one or two basic ideas such as GNP and the inflation rate, the general public has only a vague notion of everything that statistical information can offer. And yet there is a tremendous amount of information, much of which is fascinating and deserves to get as wide a showing as possible at every stage of education and training aimed at the future citizens of Europe. There is no doubt that there is a vital need for the widest possible dissemination, using trans-European networks, of statistical information which is presented in a way that responds to the problems which young people wonder about, regarding the future.'[2]

A major job

Do statistics make a good enough job of shedding light on the past for a clear understanding of the present?

'In many respects, yes. But alongside the raw data supplied by the ESS, there is room for a lot of commentary and analysis. Tables have to be explained by notes, and data by metadata. There has to be a whole set of metastatistics to go with the statistics to explain and elucidate them. This is obviously a major job, which needs a lot of expert help — people at universities and research centres — good communicators and considerable resources.'[2]

Ready access

The Commission is endeavouring to ensure that 'reliable factual information is easily available in the most appropriate form to the general public, policy-makers, opinion-formers and other specific audiences.'[1]

How are we going to get this reliable factual information — which usually means statistical information — across in the media, where television and audiovisual products greatly dominate?

We have to invest in the future. The fact is that 'the European public's main information sources have shifted from the written word to the audiovisual and electronic media. The Commission must therefore seek (...) to exploit the possibilities offered by newer forms of communication.

Networks and relays also increase the efficiency, flexibility and penetration of the Commission's information and communication activities. They provide it with an additional means of involving both the public at large and special interest groups. And they bring the Community close to the citizen and provide the Commission with a further instrument for listening to the citizens' concerns.'[1]

Thanks to the advances of electronics and EDI, statistical information and all its related knowledge will be able to circulate widely in the networks. The most recent technologies make it easy to display, with a range of multi-dimensional, colourful, attractive, interactive and dynamic features.

HELPING THE INSTITUTIONS

Explain more

In this way, the ESS as a whole will offer greatly enhanced support to the Commission which, in its desire for openness, 'must explain all aspects of its decisions, even the most difficult ones, and indicate the reasons for its final position.'[1]

This statistical information is a precious asset for democracy. It must help citizens to decide what they want their political rulers to do for them.

Checking behind

Putting a policy into action is a bit like driving a car: you have to check what is behind you as well as looking in front. This constant attention helps to put what you see in context, to adapt your speed to that of others, or to notice in time that you are likely to be overtaken by competitors or even by the pace of events.

'I was in the Portuguese Government when the recession began to bite. When we saw how the

VAT receipts were going down, we wondered whether the cause of this was in our own economy or whether the same trend was apparent elsewhere. We could not find any statistical information providing a sufficiently long series to help us ascertain the cause of what was happening and discover whether we were the only ones affected. There must be a lot of similar instances in which statistics, covering the whole of Europe, should be more readily available for use.

There must be a change affecting statistics, as I see it. They are generally used as a means of observing and measuring the recent past, and far too little use is made of statistics for long-term studies, economic analysis and the study of the more distant past. Statistics are used a lot for immediate decisions, but a lot of immediate decisions should pay more regard to the lessons of the past.'[2]

Converging views

In their mutual relations, do the European institutions get from the ESS the information they need? Is the European Parliament happy with the statistical information it gets?

'Since I have been responsible for relations with the Parliament, I have not seen any shortcomings in this area. The Parliament seems happy with the statistical information it gets at the moment. But it could probably make more use of the information. As the Parliament's powers are increased, it will undoubtedly show more interest.

The effects of enlargement are also going to be felt fairly quickly, with an increase in the demand for statistical information. We shall have to be careful that Eurostat's budgetary resources match these new demands. The Parliament, the Council, the Commission, Eurostat and the NSIs must have converging statistical views.'[2]

'Each partner needs to be aware of, and to fulfil, its role in relation to information and communication in Community affairs.'[1]

High-profile impact

How are the statistical information networks that are in the process of being set up going to affect the institutions and their partners?

'There is going to be a tremendous leap in quality, in many respects. What Eurostat has already achieved in its relations with its partner offices and institutions is really remarkable. But with the arrival of electronic superhighways and the power of the computer resources which are going to be installed, we are going to get our statistics practically in real time. Statistical information which is up-to-the-minute and distributed in this way will facilitate tremendously how the institutions and the Commission function, since otherwise they would be likely to get bogged down in bureaucracy.

These networks are essential, especially for information and audiovisual activities in the broad sense. I fully support what Mr Bangemann is doing at the Council with regard to these projects. The trans-European networks are a vital necessity.'[2]

THE FINANCIAL STAKES

Massive investment

These networks are going to need massive investment. 'There is such a demand for the money and the resources which are available that unless you can show, with figures to back you up, the justification for some choice or other, there is no way that you are going to get your proposal approved.

The whole of the audiovisual sector now has to cope with this demand for demonstration of what it can offer. Until now, the sector has been heavily dependent on public money, and it has also had to cope with insane competition — the audiovisual sector now ranks second in US exports to Europe — and a pace of growth which suggests that it is going to double in size over the next five years.

Finding the way

In a situation like this, it may be that some attitudes need to be radically changed. But how are we going to locate the markers to show us where to go? Basic statistics on this sector should not only serve to guide countries in their actions but should also make it easier for the major financial groupings to make their key decisions. Faced with changes on such a scale, they too want to see things demonstrated.

What is needed in terms of money is so massive that the Member States cannot do it on their own. In any case, I do not think it would be a good idea for them to do so. But public as well as private ventures in this field need to be able to put a figure to the risks, on the basis of statistics.

The United States shows how efforts can be shared between the private and the public sectors. Europe could copy this example. Various discussions I have had, especially with the banks, indicate that many investors are convinced that it is a good idea to get involved in these developments, with support from the State in some instances. Providing help in this way is a job which the Member States and the European institutions are accustomed to doing. Again, with statistics to back them up.'[2]

Future meetings

'European meetings on the audiovisual sector are scheduled for May. One of the conclusions that is likely to come out of the review of our policies in this area is the need to identify a number of variables which will have to be monitored if we are going to reach a better understanding of the various aspects of this sector. The figures we have at the moment, culled from various sources, are inadequate or not reliable enough.

There are probably going to be new demands on Eurostat and its partners. One of the things we do not know, for example, is just where the people are who have cable, how many of them there are, how they use it, and how many of them are willing to subscribe to pay-and-view and video-on-demand services. These are questions which really have to be answered before we start making the necessary investment, which is going to tie up an awful lot of capital.'[2]

THE PRIORITIES

The sector

'Getting a clear picture of the sector, its shape and its components, is the first step we need to take. It will involve looking at the universe of users and, in particular, analysing changes in the pattern of their behaviour over the last ten years.

The resources

Next, we shall have to look at the financial resources which are currently committed and which need to be planned for. This analysis must reveal, for example, what kind of investment is needed now to create jobs in this sector of activities. If we know that the sector is likely to double in size in the next five years, the analysis will focus on calculating what resources will be needed to sustain such growth.

The impact

The existing or expected impact of the new technologies must be assessed or estimated, for the way in which it is going to affect industry as well as consumers.

Industrial impact

The industry needs to know whether the response of people in Europe to audiovisual technologies, and their applications in networks, justifies the massive investment which is planned, and also to know what the right pace of investment should be. It wants to know whether statistically observable types of behaviour can be looked at in conjunction and can be confirmed by more recent statistics, or whether they indicate new trends. These are crucial data for investors.'[2]

Social impact

'Is it possible, for example, that the introduction of high-definition television will have a similar social impact to the introduction of colour TV? Will viewers get together as they did then to watch an expensive set which they cannot afford individually?'[2]

Furthermore, there are some large question marks hanging over the social impact of linking European telematic networks with the rest of the world. There may well be a risk that these networks will lead to Europe's being overwhelmed by services provided by other countries, perhaps from the other side of the world, at rock-bottom prices because of wage differentials.

'Networks are going to have a radical impact on the way in which space and time affect business relations, and services in particular. As happens in our single market, all these services may shortly be provided in real time — but this time on a worldwide scale. It would be out of the question for us to move ahead in the single market without adopting the same approach to the rest of the world. Networks have to provide a meeting-place, a location where partners from all over the world can communicate.'[2]

Shared responsibility

'It is important to note that Member States have a shared responsibility with the Community institutions to provide information to the public (...) to stimulate debate on the future activities of the Community. This will bring the Community much closer to its citizens, who too often tend to look at it as something remote in Brussels.'[1]

The debate on these future activities — especially in the audiovisual sector and the information sector in general — needs a lot of statistics for clarification. As far as networks are concerned, 'a more systematic and coherent approach is needed towards these important instruments of information and communication strategy. (...) Every effort will be made to maximize the effectiveness of existing networks and relays, and create or stimulate new ones only where appropriate.'[1]

'I am expecting a great deal from the European meetings on the audiovisual sector, which are certainly going to result in new demands for figures. I urge Eurostat and its partners to continue their efforts in search of quality by expediting their action — as we enter the new information age — to cover major new domains. The quality of the statistical information on networks will enhance further the reputation for soundness and reliability which European statistics has sought with such excellence to achieve.'

[1] 'The Commission's information and communication policy: a new approach', Communication from Mr Pinheiro to the Commission, 30 June 1993.

[2] Interview with Mr João de Deus Pinheiro, 23 February 1994.

FROM LASCAUX TO VOORBURG

Interview with Mr W. J. Keller

The setting-up of networks must be accompanied by a tidying up of organizations and structures. Nor should statistics be content to use the 'information highways' of the future as channels for lacklustre statistics that mean little to the user. Statistics must look to the past to explain the present, and strive to predict the future!

Prof. W.J. Keller studied applied mathematics at the Technical University of Twente, and obtained his Ph.D. at the Erasmus University of Rotterdam. Currently Director of Methods and Development at the Central Bureau of Statistics in the Netherlands (CBS1), he was previously in charge of the Automation department. He also holds the post of Extraordinary Professor of Quantitative Computer Sciences in the Faculty of Economic Sciences and Econometrics at the Free University of Amsterdam.

It is no coincidence that the CBS's first Annual Report is lavishly illustrated with prehistoric cave paintings reminiscent of Lascaux... 'For centuries, man has been leaving traces of his history. Thousands of years ago, cave paintings were being used for just that purpose. Today, we use modern methods to do the same thing. This need to understand and describe the world around us is ever present. The CBS has an important role to play in our collective lives, from one day to the next.'[2]

LAND OF THE CANALS

If any country can be described as a web of networks, it is the Netherlands. With its network of waterways, roads and motorways, its port and other infrastructures, it is one of the most densely developed countries in both Europe and the world. In the mainstream audiovisual sector, the country's industrialists are often trailblazers and are a credit to European know-how.

Everything accounted for

The Netherlands' balance sheet as drawn up by the CBS takes account of both collective assets (infrastructures and the various transport/communication/energy distribution networks, etc.) and individual assets (buildings and other private assets), and shows that each of the Kingdom's inhabitants owns a share of the nation worth some HFL 135 000 (approximately ECU 62 000[3]). Public and private funds are carefully managed and accounted for in the Netherlands. Nor did the Kingdom await the arrival of the Maastricht Treaty before starting to size up existing and future networks or preparing the ground for a surge of strategic, especially statistical, data.

Ready for IDA

The Netherlands is ready for the major IDA applications (Interchange of data between administrations). The first networks are in place. 'Several years ago, the Ministry of the Interior, on its own initiative, began to develop the electronic exchange of population data, both between individual municipalities and with other interested parties such as the CBS. This resulted in a nationwide project called GBA (a Dutch acronym meaning basic municipal administration). A dedicated communications network (GBAnet) was installed to serve the needs of this project. As from 1994, all municipalities will use this network to exchange population data and keep their administrative records up to date. Each municipality is required to forward part of this information to the CBS (...). The CBS was closely involved in the pilot test, which was carried out at national level and preceded the project proper, and is now ready to play an active role in the use of the GBAnet.'[4]

A new CBS

The CBS is fully aware of the profound changes that will prompt society as a whole to make increasing demand of information, particularly of the statistical variety. 'In today's information-oriented society, there is a growing demand for statistical information. The CBS is striving to meet this demand in the best possible way. In the 70s and 80s our programme of work expanded drastically, partly as a result of the new possibilities offered by automation. This expansion process has come to a halt in recent years, the latest round of budgetary cuts making this reduction in the number of programmes inevitable. Numerous groups of users are affected, and will have to find alternative sources of information. A number of new policies call for new statistics. Competition from other, perhaps commercial, suppliers of statistics is a real threat. This could jeopardize the very foundations of a centralized and impartial system of official statistics.'[5]

THE TEMPO PROJECT

Time is of the essence

The Lascaux artists had time on their hands. Unfortunately, this is no longer true for us. Anything that takes time is a burden on our organizations, and replying to statistical surveys weighs heavily on enterprises and society in general.

'It is sometimes less than obvious that we are providing society with a service. The people who answer our questions are not always sufficiently aware that this is a necessary step, that this is a good thing for society as a whole. Most people see statistics as a necessary administrative evil rather than a boon for democracy.

And time is of the essence! Producing statistics for a financial year, that are twelve to eighteen months late is quite unacceptable to those that use our information. Whilst many people respect statistics for being credible and generally synonymous with a job well done, most people think them too often out of date. And if we look at the information requirements of enterprises, it must be said that this is quite true.

If we managed to join forces with enterprises in using technologies similar to those we developed with our Blaise[9] system for household surveys, we could speed up the process of collecting and processing statistical information to a quite extraordinary extent.'[6]

A large-scale operation

This race against time was the main feature of the major reorganization begun by the CBS in 1992 and nicknamed TEMPO (timely, efficient, modern, professional, objective). The main reasons behind this restructuring were as follows:

- the growing opposition of businesses to the administrative burden imposed on them by government bodies and statistical institutes;
- the sometimes major differences in the scope of similar questions in different surveys and hence the need to improve coordination when enumerating/questioning the same enterprises;
- the problems encountered by respondents when attempting to convert data from company accounts divisions or other information systems in order to answer statistical questionnaires;
- the problems encountered by respondents when trying to contact the right person in the CBS to help them complete a questionnaire;
- the increased demand for timely statistical data that are better suited to the needs of final users;
- the opportunities provided by ever more sophisticated information technology (particularly EDI) for improving the speed of data collection and data processing.'[7]

The hope placed in networks

In order to carry out this major reorganization successfully, much hope has been placed in the possibilities offered by EDI networks and associated technology. Substantial savings in time are expected, particularly with data collection.

The consumer reigns supreme

'If you look at what's happening in the United States at the moment, where there is talk of information highways, you will see that these are not really networks designed for administrative purposes or for use by enterprises. The major investments are in mass uses by a large number of consumers. This is where we will see the network effect and optimum synergy. I predict that things will turn out the same way as in France with Minitel. It was anticipated that it would be widely used by businesses, the government and official bodies, but when it was developed, its mass use by consumers won hands down.

The reason for this is simple: relatively few signals are required, in terms of gigabytes, to carry out EDI between enterprises, to send electronic mail, computerized documents between organizations...The owners of the networks will never see enough profit if they limit their use to just that. However, once you start talking about video on demand, where any consumer with access to the network can call up any program anytime and anywhere, then the transmission band, that is to say, the vast number of gigabytes needed, will have to be much broader, infinitely broader than that needed to exchange administrative data, statistics, etc. The major software producers are in the EDI market much less for the opportunities in the corporate business sector than in expectation of the fantastic boom that can be expected amongst consumers.'[6]

Listening to the needs of users

'One of the major objectives of TEMPO is to be more aware of our users' wishes. Look at the bulk of the NSIs' publications and you'll see that very few of them are designed with this in mind. They merely supply material facts with very little in the way of explanation, and in a rather uninspired format. We want to do much more than this. We are aware of a major demand on the part of enterprises, individuals and the government for data — regional statistics, say — that will allow them not only to understand what happened during the period in question, but also to situate such information in an overall social context. For example, when we present unemployment statistics, we should make every effort to explain this phenomenon. What do the indicators mean, how should they be interpreted, what can be learned from business cycles, sectoral trends, major trends in trade flows, major investment patterns, etc.? What lessons do these things teach us for the future?'[6]

Showing that everything is relative

Statistics must not only help structure a wealth of information, they must also allow users to situate the data they receive in both spatial and temporal contexts.

'If all this is to have a direct impact on everyday life, we must reduce collection, processing and dissemination times. Information networks and EDI will help us do this. TEMPO aims to change the face of a statistical service that is too introverted, too bent on supplying exact data and not sufficiently outward-looking. We must concern ourselves with the market around us, and supply it with the services that the user wants and needs.'[6]

'Our attitude towards respondents must change completely. By the year 2000, the CBS should have reduced the response burden to a minimum. Before designing a new survey, we must investigate all alternative ways of collecting the data, for example, by using registers. If it nevertheless proves nec-

essary to conduct a survey, its objectives must be defined as clearly as possible, and respondents notified of the most important results. Small enterprises should be involved in as few surveys as possible. When collecting information from these, maximum use should be made of existing data, particularly tax data, etc. When collecting data, the CBS must speak the language of the respondent. Questionnaires containing CBS concepts that are not used by the respondents themselves must disappear. Ideally, data should be extracted directly from enterprises' accounting systems.'[5] In order to attain this objective, the administrative software used by enterprises should ideally contain a statistical module that automatically produces the data required by official statistics from the administrative data contained in the system.

Networks that explain things

'This is a major challenge for Eurostat, faced as it is with the need to make data from the Member States comparable. Even in a country like the Netherlands, and in a service like the CBS, if you take stock of all the information we hold, it's infinitely more than you could possibly imagine... The amount of data held by statistical offices is truly staggering. And society makes too little use of it. Statistics have been accused of merely creating graveyards of figures!

Dutch bicycles

And yet statistics can tell us plenty of things. Say you're looking for information on something that is typically Dutch — the bicycle. You may perhaps find thirty or forty statistical publications on the subject, discussing the bicycle in terms of mobility, productivity, the environment, the way a household spends its time. The real problem is to bring all this information together, to give a quick idea of the avenues open to the user. How can we give a snapshot view of the information and its many facets? Someone needs to explain the different aspects, the different perspectives, each and every time. Statistics don't speak enough about themselves, they don't explain much to the layman. The potential that the networks will offer in terms of exchangeable volumes must rectify this, they must structure both data and metadata by linking them in to past developments and the foreseeable future, they should even provide long-term forecasts.'[6]

Promoting EDI

"Promoting EDI (electronic data interexchange)will be one of our principal objectives in the medium term (i.e. up to the year 2000). The technology is already there, or will be shortly, and we must play an active role in promoting its use in future collection systems.'[5]

Statline

As the networks policy recommended by the Maastricht Treaty is implemented at European level, what new products should statistics promote?

'In order to make the mountains of information we possess more accessible to users, we will be promoting our on-line databases. Plans are already at an advanced stage, and our Statline project, which is currently being tested by large enterprises and government bodies, should mean that all our statistical publications can be accessed in this way within two to three years. And all data will, as far as possible, be set against the relevant historical trends. The system will be user-friendly enough to allow searches based on keywords.

Statline will contain not just time series (which form just a part of the information we hold), but also structures of data that we call high dimensional — matrix or cubic structures in which, for example, the regional dimension is one dimension, time another, branch of industry a third, and other variables a fourth. And users will be able to cut into these cubes to find what they are looking for.

In addition to the historical backlog and the various dimensional structures, there will be the flat data structures (when figures and columns rule out a multidimensional representation) and, finally, the traditional text structure, which is used for press releases, and the various electronic mail applications. The difficulties we are encountering in constructing these cubic structures point to the existence of a good number of holes in the statistical coordination system. This is fascinating to discover, even for statisticians!'[6]

'It is very important for the statistical offices to be aware of the changing demand for information from the public. The computer will play (and is already playing) an important role in the dissemination of statistical information. The use of adequate software to disseminate the statistical information faciliates the use of this information. The use of the statistical information is the main if not the only reason why a statistical office exists.'

A tricky question

What price should the user pay?

'For the Americans, statistics are a quasi-public asset, statistical products being sold at almost cost price. In Canada, New Zealand and Australia, by contrast, as soon as statistical information is machine-readable, it is supplied on a pay-on-demand basis. Statline puts us somewhere between the two, although we do believe that if we can speed up dissemination using databases, networks, EDI, etc., it is only fair that we ask users to pay a fee for this service.'[6]

'This is a very tricky question. We should not lose sight of the fact that we need to remain independent. Listening to the customer is important, and something we have not perhaps done enough of in the past. But maintaining our independence by supplying information that is acquiring commercial value could change the image of a statistical office in its users' eyes. We think it would be a good idea if this question were the subject of wide-ranging discussions at European level. This could be a Eurostat initiative.'[7]

MEASURING NETWORKS?

Trans-European networks are the subject of a new policy, and one that has grown in importance under Maastricht. It is the job of statistics to measure the impact of this policy. But what should we measure? How can we identify the things that are improving or deteriorating?

'These networks represent a set of virtually unlimited services, and it is very difficult to delimit the field of observation. Every European citizen should be able to access any network from his own, without running into too many obstacles, as is currently the case!

Still too many barriers

However, it is a fact that organizational problems are much harder to resolve than technical problems. Not to mention language problems. I do not think we will be able to effectively exchange statistical information until the necessary networks are in place.

If I want to transfer my money from the Netherlands to France, it is still much more difficult than making a transfer within the Netherlands, simply because the banking systems of these countries are still incompatible. And until the European banking systems have been established on a global basis, this is how things will stay. The same applies to electronic invoicing, the levying and monitoring of VAT, etc.

Networks will not improve things much until organizational frontiers have been abolished. It's all very well wanting to construct networks at European level, but the organizational and administrative structure must be in place first.'[6]

More standardization and coordination!

'In the field of statistical information, networking thus still involves an enormous amount of organization, standardization and coordination. Eurostat is already doing a considerable amount of work here, and it is thanks to this that we will ultimately be able to produce statistical publications that will make each country's data genuinely comparable at European level. Only then will we be able to publish truly European totals.'[6]

Timely arrival of DSIS

The aim of Eurostat's DSIS10 project is to establish a working framework that will enable all operators and users of statistical information to cooperate more efficiently, at all levels. It will provide the tools for introducing subsidiarity between all statistical organizations, creating an integrated framework for the various relationships, between Eurostat and the Member States on the one hand, and between the Member States themselves on the other.

'I think this is a good structural approach to problem-solving, and a good thing that Eurostat is the coordinating body. The approach that involved defining a number of activities that have now been approved by all parties was very useful.'[7] 'We all agree that the DSIS project is a focal point for networking European statistics. However, we would like DSIS to concentrate more on the collection side to begin with, as we believe that this is the area in which technological solutions will bring about the most rapid reduction in the response burden and considerably speed up the collection process as a whole. EDI and the networks will certainly improve things as far as the dissemination and exchange of data between administrations is concerned, but we must be realistic: upstream there's just one Eurostat, but downstream there are 500 000 enterprises for us to connect with. We cannot receive and process hundreds of thousands of diskettes every month! At any rate, we need networks to manage this collection process.'[6]

Sound structures first

'The problem here is not so much the standardization of statistics as the standardization of networks. Things that appear easy or straightforward at first glance might give you a nasty shock if you've assessed them wrongly. And it's much easier to say that we should centralize nomenclatures, do this or that, than to do so in practice. Particularly since any choice you make now must be good for years to come. And woe betide a wrong choice! Again, it is essential to first establish a sound organizational and administrative structure.'[7]

EMPHASIS ON COLLECTION

Combining the maximum number of surveys!

'We are convinced that if we managed to word our questionnaires to match the information already available in electronic form within the administrative departments of enterprises, we could quite simply network ourselves with both public and private bodies within the next five to ten years.

Quite apart from the time that EDI and the networks will save, we are aiming to establish a unique link with enterprises, a window through which the contents of the thirty or forty questionnaires currently received by each enterprise during the course of the year will pass. This will be a sort of electronic hatch for statistical discussions between enterprises and ourselves, a gateway for all the information requested and the answers given. We're also trying to avoid sticking too closely to the questionnaire concept based on the strict application of statistical definitions. Instead, we're trying to get as close as possible to the information as it exists within enterprises, particularly when it is already available in electronic form. This is what our EDI pilot projects are currently testing, this is the main technological component of the TEMPO programme.'[6]

EDI — pilot 1

'The aim of this R&D pilot project is to improve the perception of problems and opportunities. A single sector of industry will be tested in collaboration with one software and one accountancy firm. Data analysis should aim to establish whether there is a sufficient match between the information requested and the information contained in enterprises' computer systems, the ultimate objective being the successful automatic collection of data. (...) This test project should be completed during summer 1994.'[8]

EDI — pilot 2

'The results of pilot 1 will be used in pilot 2, together with the outcome of a preliminary study, in order to investigate how to "EDI-fy" the huge data stream from all kind of enterprises to the CBS, and how to manage the distribution of these data within the Bureau. The drawing up of specific agreements with a number of third parties (software firms, accountancy companies, computerized service bureaux, government departments) will be a major concern of this pilot project, which is scheduled for launch in late 1993 and will take about two years to complete.'[8]

The search for synergy

'For the coming years, the general philosophy is to stimulate the use of electronic input by respondents, and to substantially increase the percentage of data received electronically. Three complementary approaches will be used:

- the CBS will supply enterprises and institutions with software, which in principle will be based on Blaise, for the recording and subsequent transmission of

data (as in the CBS-IRIS and other projects). There are several possible applications of this type;

- the CBS will probably also supply service bureaux and accountancy firms with the software for recording and transmitting data on their clients;
- independent software vendors (ISVs), who produce administrative software packages for enterprises or service bureaux, will be approached and encouraged to incorporate statistical processing modules into their packages (both modules for recording data that are partly derived from existing data, and modules for transmitting these data to the CBS).'[11]

The CBS-IRIS example

'This project, which is at a very advanced stage, concerns trade statistics. Begun more than three years ago and currently in its third version, it was a sort of trial run for the EDI package currently being developed by Eurostat.

CBS-IRIS was a resounding success in the Netherlands. It currently enables data to be collected from some 15 000 enterprises. However, we have not given priority to networking problems or technological aspects.

What we supply enterprises with is a program that they can use on a PC, and we help them make the necessary links between their accountancy systems and the CBS-IRIS environment. Once their foreign transactions have been recorded each month, the enterprises load all the data onto a diskette (which we supply free of charge), or they transmit them via a network modem. It is sobering to note that of the 15 000 or so enterprises currently using CBS-IRIS, 95-99% still prefer the diskette to the network. For the vast majority, the diskette is still the simplest solution. It must be said, however, that connecting up these 15 000 enterprises each month would still be a problem for us.

The fact that enterprises prefer the diskette solution shows once again that the high technology that is available and accessible via networks is not the overriding concern: the primary consideration everywhere is to solve organizational problems and problems relating to qualifications and staff training.'[6]

THE EUROPEAN CATHEDRAL

With a project like DSIS, does the challenge lie more with the statistical offices than Eurostat?

'We sometimes have the impression that, for Eurostat and the Commission, working on projects like EDI and DSIS is like building a cathedral. They sometimes seem too distant, too ambitious, not concrete enough. Although the electronic interchange of aggregated data is important as a whole (cf. Statline), we would stress that the priority for us in EDI terms is discussing collection. That said, we would like to be more involved in the construction of this edifice. It also seems to us that the statistical offices should in general be more active and visible in the project as a whole, which tends to rely too heavily on contributions from enterprises outside the statistical field.'[6]

Projects, please

As we wrote in these columns in early 1992: '(As for action) ...it seems better to put the emphasis on a pragmatic, project-based approach. Participation in these projects will vary depending on who is involved and what the regulatory basis and geographical context are. Broadening the participation in concrete projects will be easier to attain than attempting to establish a universal standard from the outset.'[12]

'The CBS would like to participate more closely in such construction work, and would like to do so in the same way as enterprises — on the basis of paid collaboration, working as a partner in the various initiatives. We are ready to enter into this type of partnership, particularly with Eurostat.'[6]

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[1] Centraal Bureau voor de Statistiek, Voorburg.

[2] Abrahamse Professor A.P.J. Director-General of the CBS, 1992 Annual Report, p. 1.

[3] CBS, 1992 Annual Report, p. 22.

[4] de Jong J.C.B. and Metz K.J.: 'Technical provisions for EDI', January 1994 (preliminary version).

[5] Abrahamse A.P.J., Director-General, and de Vries W.F.M., Deputy Director-General of the CBS: 'Restructuring the Dutch CBS' (paper prepared for the DGINS Conference in Dublin, 24-26 May 1993).

[6] Interview with Mr W.J. Keller, 25 January 1994.

[7] Metz K.J., 25 January 1994.
Kees Jan Metz studied mathematics at the Technical University of Eindhoven. He worked for five years in a software development group at Philips NV before joining the Automation department of the CBS in 1976. He has been part of the research and backup team for some time now, and coordinates projects on computer systems and networks.

[8] Excerpt from a paper by W.J. Keller entitled 'EDI and the CBS' (written by J.C.B. de Jong, October 1993).

[9] 'Essays on Blaise 1993', Proceedings of the second international Blaise users conference, London, 13-15 October 1993, p. 13 ('Electronic dissemination of statistical data', by Alex van Buitenen, Anco Hundepool, Wil de Jong and Aad van de Wetering, CBS, Voorburg.
Cf. also 'An architecture for EDI in business surveys based on the use of Blaise', by Hans R. Stol (ibid, p. 143).

[10] DSIS: 'distributed statistical information services' framework.

[11] 'Developments in electronic input and electronic output at the Netherlands CBS', Metz K.J., Conference of European Statisticians, Geneva, 16-19 February 1993.

[12] Interview with Mr Philippe Lebaube, Eurostat, 31 January 1992.

ESSENTIALLY REQUIRED

Interview with Mr Michel Carpentier

The Europe-wide networking of transport, energy and telecommunications services brings with it problems of architecture. The computer and the terminal are becoming one. As for information networks, the need for interconnection and interoperability is giving rise to cross-media developments. The opening of networks to generic services spotlights the idea of entitlement services. Research is pointing the way to the emergence of monomedia.

Michel Carpentier studied business and political science at the École des Hautes Études Commerciales and the Institut d'Études Politiques in Paris. He also graduated in law and economics at the Paris law faculty. After dealing with organizational problems at the Atomic Energy Commission, he was put in charge of administrative matters at Euratom's Directorate-General for Research. He moved to DG III at the Commission where, as head of division, he was involved with advanced technologies and industrial policy (Colonna report). Working under Mr Spinelli, he then laid the groundwork for the Community's environment policy. He set up and ran the Environment and Consumer Protection Service. He moved on to DG XVII (Energy), where he was in charge of programmes to develop new sources of energy and energy savings. In 1983, at the request of Mr Davignon, Vice-President of the Commission, he headed the task force on information technologies and telecommunications, which subsequently became DG XIII. He currently holds the post of Director-General. He has been awarded numerous honours.

A NEW FIELD

The creation of trans-European networks for transport, telecommunications and energy was one of the major priorities which emerged from Maastricht. These objectives, like those of any Community policy, have to be quantifiable by statistics. There have to be regular progress reports.

'I am no statistician, but I can well imagine the difficulties which statisticians encounter in their efforts to undersatand this field. This is especially true when it comes to information networks, which are a rather nebulous commodity. However, we really need, as soon as possible, reliable statistics so that we can monitor every step in the development of this vital European policy. We should be happier if we could use the European statistical system on a regular basis, instead of having to call in outside consultants to provide the figures.'[1]

BOOMING CAPACITY

What exactly is a trans-European communication (or information) network? 'It is one of the major applications resulting from the emergence of new technologies. They first appeared in computers and electronics and were then applied to telecommunications, and now to the audiovisual sector. Advances in electronics have made it possible to process information — the vector of knowledge and know-how — on a massive scale and with incredible speed.

Burgeoning users

With electronics moving into a kind of mass production, there was at more or less the same time an almost exponential expansion of processing capacity, together with a very marked drop in cost and a tremendous increase in the number of users. It is now a whole new ball game, and it is not yet possible to see how it is going to turn out, either in economic or in social terms.

Learn from the past

You have to go back to the history of energy and see how we reacted to the discovery of electricity and the steam engine. These things were invented but it was some time before we had any figures on the use of trains and their conversion to electric traction, on the production and use of electricity, and on the various ways in which the various forms of power were used by economic operators and by the general public. When it comes to networks, we are now at more or less the same stage. We can of course identify and measure a certain number of things, but there are a lot of others which we have only a vague idea of.'[1]

Difficulties in understanding

There is the added difficulty that very often we are dealing with something without any substance, an intangible commodity. 'Technology has sometimes raced ahead, leaving any understanding of it struggling in its wake. Take customs duties, for example: how are you going to assess the tax on a semi-conductor? Are you going to base it on its component material?'[1]

Container and content

'Networks comprise primarily a physical infrastructure. The job of statistics is to identify the components and translate them into so many miles of wires of a particular type and the number of items of information passing along the wires each second, and so on. But this counting process may well be complicated by the fact that data

can be digitalized and compressed, which means that the same circuit can carry three forms of information: conventional voice telephony, text using packet mode switching between data bases, digitalized images.

The arrival of such networks, incorporating various types of service, should be accompanied by adequate statistical illumination, properly organized. We are ready to put every effort into providing this illumination.

The other component of these networks is, of course, the information which they carry. We have to quantify the amount of written and audiovisual information and break down information flows by type. A systematic examination of content is vital if we want to properly manage the existing and future networks.

Computer or terminal?

There are going to be networks which do much more than just carry services; in some cases, they will actually process the data and offer services. How are we going to distinguish, then, between computers and terminals? The network itself becomes a kind of giant computer, which like the human nervous system receives, sorts and transmits information.

Interactive working will become a reality. Anyone will be able to get into the network and initiate a dialogue with other users. How is statistics going to differentiate between producer and user?'[1]

FROM MULTIMEDIA TO MONOMEDIA

It is going to be very difficult to decide exactly where an item of information is processed. 'It is possible that it may occur with a lowly semiconductor. With the pattern of change which is now emerging, the question is whether the modes of information transport — the media — are gradually being geared back or whether there is not more of a trend towards convergence. Perhaps we are already moving from the multimedia to the monomedia stage?'[1]

Generic services

Agricultural statistics experienced brisk development because they were needed for the common agricultural policy. Industrial statistics reaped the benefit of expansion between the 1950s and the 1980s. It could be that services statistics will take off as networks are installed.

'Given the generic nature of many networked services — ranging from simple electronic mail to digitalized image processing — there is a serious lack of any means to measure them. Just as you can adapt a truck depending on the type of body you install, it will need to be possible to alter some network functions to adapt them to specific applications. How is all this going to come through in statistical terms? We should like to have figures for trade in networked services and the flows of services they carry as quickly as we possibly can.'[1]

Infrastructure and architecture

'The data which we get at the moment from the International Telecommunication Union, and which are also collected by Eurostat, are generally inadequate. We have to do more than record equipment and have to collect regular data on software as well. We are well aware that we are going through a phase of rapid change, with new technological innovations and new company mergers every day. We have to keep a close watch on these changes, even if everything is a bit uncertain.'[1]

For this uncertainty is going to last for several more years. An urgent need is therefore emerging for the establishment of sound architectures between producers and users of networks: at a given point in time it will be necessary to manage to erect common platforms. 'The Commission's role will be to stimulate consultation between the various parties involved, to help define overall projects and to ensure the cohesion needed to bring the projects along, particularly by making sure that the architectures and protocols put in place are harmonized.'[2]

Integrating economies

Do the component manufacturers and computer producers, who all have their own operating systems, really want a more open system? As long as they can profit from proprietary products, why shouldn't they make the most of it?

'In general terms, however, economies of scale will apply. Anyway, I am convinced that another category of economy is going to take over: economy of integration. It will affect the various information modes and provide the more resourceful operators with a new competitive edge. Watch out for cross-media!'[1]

SHIFTING BORDERS

According to Maastricht, the Member States will still be responsible for the introduction and operation of networks, but requirements and guidelines may be defined on a joint basis. How are we going to make sure that there is no duplication of effort, no incompatibility, no inefficiency and no waste of resources?

'There has to be clear distinction between the responsibilities of government bodies and of the market sector.

Entitlement services

The boundary between these two sectors is shifting. There are some services — public health, education, certain types of public transport, etc. — which are currently in the non-market sector but which may shift to some extent to the market sector in the future. There is also the idea of universal services, since some of these services in fact involve entitlement. This is a factor which will have to be borne in mind.

Stricter management and efficiency in non-market services are bound to result in a certain amount of accommodation in terms of organization.

Community role

The division of responsibilities in the telecommunications sector does not pose any great problems at the moment, since the Commission and the Community have decided that telecommunications should not be dealt with in the light of specific problems affecting or raised by economic operators with regard to competition, but should instead be tackled in a wider regulatory context.

At one time — and this was simply an example of the normal tussle between the Member States and the Community — there was a query as to whether the Community could intervene on the basis of competition rules in the arrangements governing the organization of telecommunications. The answer came from the Court of Justice, which ruled that the Community had some say in the matter.

Endgame for monopolies

There is nobody who now denies the need for common rules on liberalization and the breaking-up of monopolies. But everyone also agrees that such monopoly-breaking cannot be carried out without some structure. This has led to the idea of an open network provision (ONP), which guarantees broader rights than the simple right of technical access. They include access to interconnections, primarily through the use of common standards.

Essentially required

Naturally, there is not going to be a common standard for every case, but only where it seems to be essentially required, as for interconnection and interoperability. Those are the areas where common standards — and worldwide standards, if possible — are needed. But we have to be careful that a common standard does not result in different specifications, which will then lead in spite of everything to new proprietary systems which will create new barriers.

Useful meetings

The frequent meetings we have with the regulatory authorities are very useful. I have never experienced any great difficulty in this area, where we have always been at pains to stress the subsidiarity of our action. One of the major innovations announced in the Green Paper published in 1987 was the separation of regulatory and operating functions. It is obvious that if a government body grants a licence in a particular area — for example, mobile phones — the content of the licence and the terms for its granting must not be so distinct that they result in a break-up of the market. Nobody would benefit from that. The ONP system is supposed to lead fairly automatically to a kind of harmonization of licensing terms and to a system of mutual recognition.'[1]

Customized networks

The breaking-up of monopolies is already well under way with regard to equipment and certain value-added services. The objective should be attained in the case of telephone services by 1998. 'As I see it, everyone involved is going to make an effort to comply with the deadline so that no-one gets left behind by events, or by technology, or by competition and the phenomenon of internationalization.

Are we then going to see the emergence of customized networks, depending on the type of application? Who is going to run them? How are we going to tackle the problem of reciprocity with third countries? How is it all going to be organized? It is still too early to risk any prediction.

The main thing is that we have to maintain interconnection for physical networks and ensure interoperability — i.e. compatibility by harmonizing technical standards — for services. Unless we do that, it will be back to the dark ages. This aspect is even more important in view of the fact that the systems in place at the moment, whether for the processing or the transmission of information, are routed along such narrow channels that any blockage is bound to prompt calls for separation or break-up, at sectoral or national level. This is something we really have to avoid. It would be a tremendous blow to Europe.'[1]

Statistical precision

What is Eurostat's role in all this?

'We have to help each other to get things organized. In some cases, we can use past experience. Statistical precision has a definite role: with precise classifications and a precise approach we can gradually put together the data which are beginning to appear. We have to watch how the networks are doing, not only inside but also outside the Community, in our relations with the United States, with Japan and with central and eastern Europe.

I do not underestimate the difficulties. I have become aware of them myself, occasionally, such as when I noticed, for example, how difficult it is to get statistics from a country like China, where I put forward statistics as a potential area of cooperation.

Getting to grips with costs

During the GATT talks, one of the problems we all ran into was getting valid statistics. Calculating a figure for the European networks policy will create the same problems in future negotiations. This need for figures is a matter which will really have to be tackled with our American partners as part of the top-level dialogue which has just been set up and which should lead to a number of common conclusions, based for example on their efforts to create a national information infrastructure (NII) for the whole country.

In this search for figures, a cost-based approach seems to offer the best option, to my mind. But I am not all that sure that it will be possible, as things stand at the moment, to get a very clear picture of operating costs.

Eurostat will have to take very careful account, in its future activities, of the trend towards the dematerialization of production and trade. This is a difficult task which calls for special statistical tools and methods.'[1]

SPIN-OFF FROM RESEARCH

A lot of information networks are now being set up, with the Commission's encouragement or prompting. Against this background, coordination and cohesion need to be part of the efforts to optimize Community research.

At the request of industry

"Things are beginning to move very fast, sometimes even faster than we expected. New technological developments, which have had Community backing for more than ten years in some cases, are now appearing almost every day.

It was at the request of industry that we launched the Esprit programme in 1982-83. It has operated like a very lively club, with the members generally supporting our initiatives. We had to endeavour to remain as far as possible outside the commercial sector. This explains why Esprit has not been involved in consumer electronics or telecommunications, where the major conglomerates wanted to keep control of their research work.

In this way, we respected both the wishes of companies which did not want to see us getting involved in competitive areas and the competition rules laid down in the Treaties. We had to work at the pre-competitive stage, although it is not always clear where the boundary lies. What it came down to was that pre-competitive meant projects where rival firms were willing to cooperate.

A change in attitude

The Esprit programme was followed by RACE. I remember the difficulties at the outset, with network operators at widely differing stages of research in the various countries. But gradually there was a change in ideas, and a real change in attitude. There are more people now who are more in favour of rules.

We did not want to get involved in research on technologies which already practically existed. That is why it was more or less a leap in the dark in 1987, when we focused much of our effort on the development of broad-band technologies.[3] There were a lot of people back then who said it was all pie in the sky. Nowadays, we can say in all honesty that a fair proportion of RACE activity was devoted to the development of ATM (asynchronous transfer mode) technology.[4] Something like 200 standards have come out of RACE, and there have been a tremendous number of patents filed as a result of the programme.

Universal applications

Using the momentum of programmes which were launched, in some cases, as long ago as 1986, broad-band technology will make it possible to develop a wide variety of universal applications, especially in the social sphere. There are various developments which can be expected in such fields as health, education and in-service training.

Fast and reliable figures

It goes without saying that all these generic services are going to need to be recorded in terms of figures. How many hospitals use a particular service, or a particular management system? What is their purchasing policy? What kind of information flows are involved? There will have to be special indicators to cover telecommuting — which apparently already applies to more than six million jobs in the United States — and the whole range of intangible tele-service activities, such as distance learning and medical services.

We are hoping to get the fastest and most reliable figures possible for measuring the impact of these networks both inside and outside the Community, and especially in social terms. One area which needs close watching, especially where interconnection with third-country networks is concerned, is the possible introduction of services originating in countries with low wages and almost non-existent social protection.

Innovation statistics

As part of DG XIII's actions to optimize research, the future merging in a single programme of the follow-up to the Sprint and Value programmes should make it possible to pay more attention to statistical concerns. In this respect, collaboration with Eurostat on innovation statistics is very encouraging and bodes well for the future.'[1]

MOVING CLOSER TOGETHER

Esprit, Race and a variety of other programmes have led to a network of persons with an interest in the fields involved, be they producers (of hardware or software) or users. 'It all seems to be running smoothly now, but you can take my word for it that back in 1986-87 a lot of these people were not the least bit interested, and were even scornful. The world of industry, economics and politics was and still is fairly rigidly divided. And this is true not only in Europe. Getting hundreds of people to work on a common network of interests, as part of an operation which at times called for fairly complicated involvement, is already no mean achievement.

What does it all mean for society?

The trickle-down effect is going to bring politicians and economic operators closer to the man in the street. In theory, everyone is going to be able to get in touch with anyone else. The current rules based on physical separation or differences between forms of information will be erased by data digitalization and compression.

How is this change going to affect society? No-one really knows. As Mr Bangemann put it just recently: we have to cope with this tremendous change, and we have to come to terms with and succeed in carrying out the transformation which is needed to meet this great challenge.'[1]

'It has been acknowledged, at the highest political level, that telecommunications and telematics technologies in the broad sense are essential to foster harmonious development in every region of Europe and to improve competitiveness in the economy. In this way, telecommunications networks are helping to bring out the

image of a new Europe, where the responsibility of the Community goes far beyond the mere creation of an economic area. A series of new challenges — cohesion, security, the improvement of the environment, the development of the eastern, central and southern parts of Europe, to name but a few — will depend to a great extent on how we deal with European telecommunications and areas of responsibility in the next few years.'[5]

There is a heavy responsibility on the Community, to be sure, and for European statistics there is much that is going to be essentially required.

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[1] Interview with Mr Michel Carpentier, 17 February 1994.

[2] Carpentier M.: 'Les technologies de l'information', *Annales des Mines*, Paris, May 1992, p. 11.

[3] The term broad band refers to subscriber access volumes exceeding 2 Mbits per second, compared with 64 Kbits per second for voice telephony at present.
The need for broad-band services is already emerging, especially in professional fields (e.g. interconnection of local networks of high-speed computers). This kind of need is currently dealt with by applying one-off solutions using specialist links, offering only point to point services.
A wide range of services and applications for professional or home use has already been conceived, but greater access to broad-band networks is required. It follows that one-off solutions providing point to point services will have to give way to general integrated solutions, i.e. to solutions exploiting the cost-saving benefits of switching. A growing number of one-off solutions can only lead to higher costs than an integrated switching solution, quite apart from any problems of incompatibility which may arise if different solutions are developed.
The requirements in terms of band-width of the proposed services can be very high, in excess of 100 Mbits per second for television transmission, for example, or much lower for simple voice telephony. The cost of transmitting an item of information and the scale of charges applied will have to depend on the volume of information conveyed and not solely on the connection time, as is the case with the current telephone network.
Euzen J.-P., DG XIII: 'Commutation ATM — Les résultats obtenus dans le cadre de RACE I', *I&T Magazine*, No 12, pp. 10-11.

[4] ATM is a mode of transport for digitalized information using cells. The cells each contain an identification header and they are all the same length, regardless of the type of information conveyed. Transport is asynchronous in the sense that the cells have no position in time, unlike the bytes of a synchronous link which have a fixed position in a frame. The main advantage of ATM is this absence of link between the information conveyed and time; because of this, transmission on an ATM link has no predetermined, and thus fixed, structure. Any communication can use the link, regardless of volume, provided there are enough cells available to accommodate the information. With multiplexing of data, it is possible to achieve genuine integration of services of all kinds, regardless of volume, on the same transmission medium.
Euzen J.-P., DG XIII: 'Commutation ATM — Les résultats obtenus dans le cadre de RACE I', *I&T Magazine*, No 12, p. 11.

[5] Carpentier M.: 'Telecommunications et réseaux télématiques en Europe', *Annales des Mines*, Paris, December 1993, p. 10.

EN ROUTE AND ON COURSE

Interview with Mr Philippe Lebaube

Statistical information networks can be a boon or a nightmare, depending on how they are used. If we are going to plan for the future, we have to get it right now — by endeavouring to chart the right course and give enough momentum to initiatives to keep them going.

An IT engineering graduate from the University of Grenoble, Philippe Lebaube began his career in a research centre in Grenoble developing software for use in the social sciences. He joined the Commission in 1986 and he is now a member of Eurostat's computing and statistics unit in charge of general services development (office automation backup, logistical services for computing activities, etc) and the introduction of new computing methods for statistics. In this role, strongly geared to the outside world, he is chairman of the Message Development Group of the Western European Edifact Board (part of the UN/Edifact organization).[1] This group is responsible for ensuring that statistical facilities are as far as possible incorporated into EDI[2] applications.

THE IMPACT OF NETWORKS

Let's suppose that the statistical services which currently operate at regional, national or European level have managed to network their various inter-service links. Is the introduction of these networks going to change their way of working together?

Just in time statistics

'The lack of organized link-up at present explains why there is a tendency to keep everything here at Eurostat. If there were reliable networks linking all the partners, each item of information could easily stay with the person in charge of looking after it. If we had efficient networks at Eurostat, we should be able to make more use of subcontracting and work much more directly with the Member States as partners.

Remote collection, production and dissemination of statistical information would then be an operation very similar to the activities of firms which link up branches, subsidiaries, customers and suppliers across borders to trade goods and services using the no stock or just in time approach. This means that everyone has to know just how far his service extends, with each person going just far enough for the next one to take over automatically. As soon as any information is produced and available in a particular Member State, it will also be immediately available to Eurostat and all the other Member States.

The existence of these service borders naturally involves a certain requirement: a quality guarantee. And the same quality criteria must apply to everyone.'[3]

Consistency and synchronization

Naturally, this system needs information to circulate freely throughout the network, without getting stuck or getting lost. If statistical services are to be properly synchronized, there needs to be broad consistency in the approach.

Interchange agreements

'Interchange agreements must clearly demarcate responsibility. This is the real challenge: how to synchronize things. We are going to be working in house but we have to leave the door ajar so that each area of responsibility can communicate with the others via a common area, a kind of staging area where suitable protocols help everyone to understand how the rest go about things. But, of course, we have to respect privacy by not pushing the door wide open.

Type and form of information

Once everything has been properly demarcated and everyone knows what his particular responsibilities are, the next question is what kind of information is going to be exchanged. What are the data going to be like, and how are they going to be structured? There will have to agreements on form. This will involve all the work which has been done in connection with EDI.

Encoding techniques

During the various stages of the synchronization process, who will be in charge of getting systems to match? Are we going to opt for my particular encoding system over yours? Who is going to make the first move? How are we going to arrange things so that we are mutually informed whenever a change is scheduled?'[3]

Statistics as surveillance

Once trans-European information networks are set up, the general public might well think that statistics, ideally located as it is between the producers and users of information flows, simply has to plug in and listen.

'That would be the worst of all possible worlds. It would mean statistics being used as surveillance, as

an instrument of power, as a form of manipulation. We really have to avoid that.

It may be possible, however, for statistics to develop a new and thrustful image in conjunction with networks. It could be a form of statistics which was really plugged in to the major economic operators. Major sectors — transport, tourism, insurance, the car industry, chemicals, etc. — are very interested in the contribution of a statistical system which is connected to their telematic circuits and which can follow and measure the trade in goods and services which is already to a great extent carried out using electronic means. We meet representatives of these operators at every Edifact meeting.'[3]

STATISTICS AND MANAGEMENT

Eurostat's involvement in standardization activities, which the major economic operators are also showing a keen interest in, has in fact allowed these operators to realize some of the virtues of statistics.

Structuring, encoding, classifying

'If you are talking about data interchange, you are talking about structuring, encoding and classifying: all areas that statisticians know a lot about. And one thing to note is that those who use EDI for operational purposes are often involved in management of some kind, and the type of interchange that is carried out is related to their management activities. Statisticians, however, are generally not involved in such management activities, since our job is to classify and count things. As a rule, our job ends there.

Strategic implications

The reason why economic operators are interested in our way of classifying things is that they use statistics to find out where they are when it comes to their share of the market. Statistics is thus a highly strategic tool. Our involvement in EDI and networks is beneficial to both sides. It makes collection easier while easing the burden on respondents, and it also helps them get more information feedback.

There is a strong demand from economic operators for classifications and statistical methodologies which reflect as much as possible their activities, the life cycles of their products, their general economic attitudes, etc. This means that to an increasing extent in the collection process we are having to adopt ways of bringing the statistical view of things into line with their operational methods, for the sake of aggregation and comparison. Getting down to the actual nitty-gritty is exhilarating for statistics.'[3]

Emerging priorities

At the end of 1993 Eurostat and the Member States set out to review four years of work on EDI. A general trend pattern emerged from this pooling of experience.

'Message design is definitely a number one priority. It is obvious that you cannot standardize everything. And you should not set out to, anyway. Too much time would be wasted on matters which resulted in only minimal benefit.'[3]

The primary emphasis, therefore, is on aggregated data interchange between the NSIs and Eurostat: time series, multi-dimensional data, questionnaires, classifications, etc. These are the pressing immediate problems which, when dealt with, will enable the swift introduction of message swapping between national and European collection systems to come about.

Reference environments

In addition, the detailed schedule worked out as part of the DSIS study [4] has made it possible to compile a very precise list of 52 tasks, to be used as a starting-point for future actions.

'The European reference environment is an idea which is clearly emerging in this process, where the general outlines of production, reference and dissemination environments are clearly marked out. It goes without saying that national and European reference environments have to be in line with each other.'[3]

Production environment

This is the collection stage, where the data transmitted to Eurostat by its various correspondents are validated, corrected, harmonized, aggregated, etc. In this environment, which is a restricted working area because of possible confidential data and is open only to those authorized to work on its statistical organization, the emphasis is on how to process the information, using a careful and constantly updated selection of the most suitable production equipment and software.

Dissemination environment

This is the whole range of products and services offered by the statistical set-up in response to the variety of general or specific demands which come from the clients, both official and private: In view of the range of dissemination media (publications, data bases, CD-ROM, various electronic media), and of the constant changes in demand and the technological resources available to satisfy it, this environment needs to be very flexible so that it can continually adapt to new circumstances.

Reference environment

The range of problems encountered in the production and dissemination environments, together with the variety of solutions which are put into practice to cope with them, demand some kind of link between the two environments. If you are going to use x production lines to steer data towards y dissemination channels, you are going to end up needing x times y interfaces between data input and output. In order to get round the problem of the massive increase in workload which would result if matters were arranged along these lines, Eurostat was encouraged by the DSIS study to interpose a reference environment between production and dissemination. This provides a standardized 'parking lot' for data and metadata designed to be unaffected by technical developments and changes in production or dissemination methods, and it reduces to x plus y the number of interfaces to be managed. Thanks to this kind of architecture, the production and dissemination environments acquire the flexibility they need, but any work involved as a result of the constant adaptations is kept to a minimum.

Communication and dissemination

'Are we all using the same language? Is there internal communication between services? Is dissemination related to a target audience? It is an audience which

is expecting something attractive, produced because it is read, used, asked for, useful.

One of the facts which the DSIS study highlights is that it would be pointless to start working towards consistency by tackling the production systems at the outset. It would be far too big a task. However, we can build on service agreements for reference environments, since this is directly linked to the statistical programme of the European Communities. It tackles things as they are, in response to the daily work of the partner offices.

If you think of DSIS implementation as a kind of cooperation among services with given responsibilities, you are stressing the responsibilities of the particular services. Quality assurance has to be improved, since nobody is going to subcontract any work to you if there is no certainty that the product he is going to get meets the same quality standards as when he does the job himself. And he will naturally want an ongoing service as well, with the product he gets being maintained over a number of years. You have to be able to supplement it and keep it updated. All this involves holding on to massive amounts of data for an adequate length of time.'[3]

RISK OF ANONYMITY

Is there not a risk that opportunities for the mass transfer of increasingly anonymous networked information will result in a reduced level of responsibility on the part of producers?

'It is an interesting question. Who is in fact responsible for what appears on screen? Who put the final document together? How does it look? Where is it held? What authority does it have?

Since it has to be possible to identify, if need be, all information — and especially statistical information — so that users can operate a value judgment before accepting it, how are we going to tackle this particular aspect in the general scheme of statistical networks?

There is a lot of talk about these aspects at present, and it looks at the problems from the copyright angle, concerning validation and publication rights. It is one of the tasks which has been specifically identified in the DSIS programme.

Message received — or is it?

With networks currently not able to talk to each other, because of technical incompatibility and malfunctions of various kinds, it is not yet possible for partners to communicate on the same level. There are some services which receive your electronic messages and automatically notify reception, while there are others which do not. Without being notified, you have no idea whether the file or data you sent in fact arrived at the right place.

The current lack of system interoperability means that messages transmitted electronically do not arrive where they are supposed to. There is no way we can put up with messages that get lost in transit. If we do not tolerate it from the postal authorities, we cannot tolerate it from a trans-European statistical information network. An application which is developed as part of the DSIS set-up will have to have a message acknowledgment system built in.'[3]

Organizational rather than technological progress

Secure communications are an important factor in statistical quality, and one which is borne out by the confidential nature of certain data. Throughout Eurostat's project designed to deal with problems of statistical confidentiality, it emerged that technological solutions could always be found, provided there was enough organizational will to do so. 'The project generally showed that security is first and foremost a problem of organization; technology comes second.'[5]

Improving reliability

'In various projects for standard networks that we developed, the same thing always happened. After a few weeks or months of apparently trouble-free operation, suddenly everything crashed. Perhaps our tools were not of the right quality, or were not up to the job. The fact remains that there is no doubt we should spend more time on quality and on providing a reliable after-sales service. We should put more into improving reliability and ensuring that systems actually work, even if we have to be less ambitious when it comes to the objectives we set for our products. Another thing we need to do is emphasize how important it is for everyone to be able to rely on adequate technical skills on both sides, to ensure the lasting operational viability of our technical tools.'[3]

TELEMATICS AND RESEARCH

In the Community's fourth framework programme on research and development, there are several actions, focusing particularly on telematics aspects, which deal with techniques of information representation or display. European statistics is involved in these actions and is keenly interested in techniques of representing statistical information.

Ill-suited standards

'It emerged during the work that the standards which are now available are inadequate when it comes to correctly handling the data we want to represent and exchange. Four years of work on EDI messages highlighted the fact that the Edifact standard is ill-suited when it comes to representing multiform statistical objects and adding notes, explanations and metadata. It is not possible to decorate the search trees. The fact is that at each junction of the tree we would like to put comments, codes, qualifiers, or other objects, but the interchange standards and syntaxes which are available at the moment are not up to the job.

Cross-referencing

When you export a statistical object or an item of statistical information to one of the Member States, the object or item should actually be accompanied by comments, graphs and images — and there is no reason why sound should not be included as well. But how can you be sure that what you send in fact contains the object and all its relations with other objects? How can you be sure that everything is going to be set up correctly when it gets to its destination? How are you going to know that nothing has got lost along the way? Here, too, interchange standards and conventions have to be worked out, so that the links between the various

objects are maintained intact. On the basis of interchange agreements, every application and every service has to assume responsibility for setting everything up when it arrives, in line with what was agreed on departure. These interchange agreements are naturally very detailed, highly technical and exceedingly complex.

Technological migration

The use of better-quality standards will demonstrate, more clearly than at present, that many statistical applications in current use have become ill-suited. The need for a kind of technological migration will become increasingly urgent, and we shall have to devise computer tools to let us use these standards. One aspect which will prompt this needed migration stems from the fact that statistics still has to cope with the problem of massive quantities, which put a strain on computer infrastructure, in spite of the mighty number-crunching capacity of the most advanced equipment.

Looking, browsing, finding

In the way in which it succeeds in representing the actual world, statistics has some very important tasks to carry out. 'Our representation of the world must be better displayed and constantly endeavour to be better explained. It is not only the statistical sector which is currently looking into problems such as metadata, the use of algebra for metadata and expert systems to manage such data. There are various specialist fields which have already published a significant amount on the subject. It is our view that Eurostat, in its role as coordinator of European statistics and as a major player in this field in the world, can play a prime role in fostering the development of joint skills at national or international government level and in the universities.'[3]

Display tools

Apart from classification schemes and techniques for accessing information, metadata can be used as tools for display, vital for statistics which can no longer operate in a closed circuit, used by people who have such an in-built knowledge of their fields that any attempt to clarify the content of the statistical information they exchange just seems superfluous.

'With modern technology, information has become more diffuse, and the link between producer and user has become increasingly remote. Nowadays, there may be no link at all: the data are networked, and the people using them have no idea of who produced them and how they went about it. The distancing of the user from the producer means that metadata — literally, everything around data — are becoming more and more important.

Inexperienced computers

All the implicit baggage that accompanies an item of information has to be increasingly explained. The person you are dealing with does not necessarily know everything that you do, nor is he likely to be able to interpret it in the same way as you. He may be a very inexperienced user, with no expertise when it comes to statistics. And the most inexperienced user that we increasingly have to deal with is in fact the computer, which usually gets asked to process our data.'[6]

A problem of ergonomics

Access to written information depends on the know-how of each and everyone of us. Where relatively complex electronic data consultation is concerned, however, there are real problems of ergonomics.

'Sending a diskette or a magnetic tape to someone does not need highly skilled staff. But as soon as you are talking about electronic transfers and networking, you are going to need specialists and even qualified engineers in telecommunications. Unfortunately, we have not yet reached the point where you can say that telematics is child's play for users. It is still all too much to cope with for those who do not know what it is about. While large businesses and organizations often have specialist staff, hired to run in-house operations, most small and medium-sized enterprises cannot run to such expertise. This is probably going to be a factor for a long time to come.'[3]

Maintenance and dissemination agencies

If every item of statistical information and every statistical object which is disseminated has to travel the networks with its baggage of connections and access tools — viewing tools which swiftly find the required data, or browsing tools which systematically scan an entire field to pick up a certain kind of information or data — and if there are n products on offer, you could well end up needing n interfaces. Users are just going to be out of their depth.

'This explains the idea — one of the points in the DSIS programme — which is making headway in our talks with the Member States: the role which could be filled by maintenance and dissemination agencies.

The statisticians who are directly involved with the reference environments will be in the best position to guarantee information maintenance. Others who are working in the dissemination environments, as long as they have suitable dissemination devices (viewing and browsing tools, etc.), could receive objects from partners in line with pre-arranged agreements and pass them on to the customers on their circulation or subscription lists. In this way, user-interface problems, together with most current problems of user-friendliness, could be solved with the help of dissemination agencies, which would ensure that the ergonomic set-up was consistent.

There has to be a choice: either you assume that the tools have been successfully standardized and that the devices you have installed can all adapt to the data, which means that the user-interface will function; or you prefer to rely on product-oriented relay centres, whose job it will then be to ensure user-interface consistency.'[3]

Server tools

Tools such as Edinomen (still at the advanced prototype stage) are obviously relevant to the maintenance-dissemination question.

'When I have good networks, I should like to be able to find a statistical document, an item of information, or even a classification, with ease. I am going to be able to access servers which ought to be capable of providing me with the latest version of any publication or of any documents or set of documents. It should no longer be necessary to have to ask someone to do the job. Edinomen does it with classifications. It can provide the

most recent version of the Combined Nomenclature between two specific codes or all the codes under the same chapter heading, and so on. There are similar initiatives at the NSIs, the United Nations and the OECD.'[3]

LIKE A CHAMELEON

The principle

'The installation of networks should make it possible for us gradually to introduce communication layers which match as far as possible what is run by the partners (economic operators or government bodies) at regional, national or European level. Communication will have to change colour depending on the connections which are made and through which the circuit passes. It is our job to supply the transformers and adapters so that it all works. In this way everyone retains his own independence.

How it will work

Statel

If you look at the set-up in this way, Statel is the adapter: the application-to-application protocol independent of data communication services. Statel will ensure that an application operating in a Member State, which wants to talk to another application in a different Member State or at Eurostat, can be communicated independently of the telecommunication infrastructure which is used. The purpose of Statel's chameleon technique is to safeguard users from the technical complexities of their electronic handshake. The added value of the operation, however, has to be maintained from start to finish. The acknowledgments have to be there from beginning to end. It goes without saying that Statel has to rely on the telematics infrastructure of the partner organizations and to be incorporated in their management set-up. If the technological input results in new creations and new maintenance, the responsibility for adaptation will have to be clearly marked out.

Stadium

This is a kind of records office for electronic interchange and data messages. It is also the switching apparatus: a Member State wanting to transmit data to Eurostat sends them to Stadium, and it does not have to worry about which information system it has to enter or arrive at. The switching operation has to work both ways: for collection and dissemination. Data producers call up Stadium, which forwards the information.

Strings

Strings is involved in the dissemination phase and is linked to the reference areas. Regardless of the reference system used, the job of Strings is to provide an electronic publishing environment for productions — objects for dissemination — which may be multimedia. If you want any item of information set up in various formats — from camera-ready to any kind of electronic format, CD-ROM, etc. — Strings will see to it that the presentations are harmonized. The author just has to provide the what and Strings will look after the how.'[3]

ELECTRONIC OVERDOSE?

Given the technological levels which have been reached nowadays, and for want of any techniques to sift information, the tendency is to disseminate everything everywhere. If we are not careful, the paper mountain is going to become an electronic overdose. Far from providing the best of all possible worlds, networks are going to end up by turning into a nightmare.

Sift and select

'As soon as the networks are up and running and as soon as you have got the right connections, the chances are the whole system is going to overload with just one input. Imagine if electronic mail followed junk faxing which day and night clutters up the telephone lines with reams of paper sent out to subscribers or even potential customers. If we are not going to be overwhelmed by e-mail statistical documents and data, we are going to have to have tools for sifting and selecting.

This is the primary thrust of the suggestions we have made as part of the IDA projects[7], where generic telematic services offer users document dissemination servers which can, for example, provide the list of documents which will be on the agenda of the next meeting of this or that committee, working party, etc.

We have to point out that there is a clear distinction between electronic mail systems and electronic conference systems. In the latter case, those attending the conference can talk to each other and ask questions and tackle the information they need at their own pace. But they deal only with what they need. This is a trend we have to encourage, to counter the bad habit which has already crept in of sending everything everywhere. It is another reason why the idea of reference environments, in the DSIS project, is so appealing.'[3]

Plan for tomorrow by acting today

The detailed work programme which resulted from the DSIS feasibility study indicated the priorities for 1994: metadata, reference environments, EDI messages for inter-service protocols, and the introduction of the DSIS logical network.

'The banners were out, and there was some criticism that the whole project was getting out of hand. But if you do not come up with an overall framework for your partners, they are going to come back with: "I can see what you have in mind at the moment, but what does the future hold?" If anything is going to get done today, people want to know what it is all going to look like tomorrow. There is no getting away from the overall picture.

En route and on course

If you are going to mobilize human effort and resources and set up teams that are going to show enthusiasm for what they are doing and take their projects to heart, you have to offer them something enticing. You are not going to turn them on with outdated technology from the 60s. You have to show the way forward. As each of the tasks we have identified gets under way, I am convinced that the Member States will realize just how practical the DSIS programme is. What it is in fact doing is developing interception strategies. If you want to get from one point to another, you really need to know where you are starting from and where you are planning to go. And then set off. If you are going to motivate teams and give direction to

their work, you have to make sure that they can see beyond the horizon if they are going to stay en route and on course.'[3]

[1] UN/Edifact (United Nations rules for Electronic Data Interchange for Administration, Commerce and Transport), ISO 9736.

[2] EDI: electronic data interchange.

[3] Interview with Mr Philippe Lebaube, 19 January 1994.

[4] DSIS: distributed statistical information system.

[5] Wieland Dr Ulrich: *Data protection in the Statistical Office of the European Communities*, Eurostat, 23 November 1993.

[6] Defays Daniel: *DOSES: its origins, its results, its future*, p. 65, Eurostat, CA-80-93-501-FR-C.

[7] IDA: interchange of data between administrations.

ELECTRONIC STATISTICS, PLEASE!

Interview with Mr David Blake

At present, trans-European telecommunications networks are not just of very poor quality but are also exorbitantly expensive for millions of potential users, who are nevertheless keen to make full use of their future capabilities. The advent of 'electronic management' — one of the more visible spin-offs of twenty years of computerization — demands the constant availability of electronic (and particularly statistical) information which can readily shed light on the present, explain the past or look to the future.

After graduating in economics and mathematics from the University of Sussex in Brighton, David Blake began his career as a journalist in 1969 following European Community affairs in Brussels for The Times *and* The Sunday Times. *In 1971, he became a permanent economic correspondent for* The Sunday Times. *In 1973, he returned to* The Times *in London to take charge of the news desk for foreign business, economic affairs and national news, becoming editor-in-chief of* Business News. *In 1988, he left* The Times *to set up* The Sunday Correspondent, *which folded in 1990. He then joined* The European *where, as an associate editor, he was in charge of the business section and weekly economic affairs. At the end of January 1994, he left this newspaper to join the finance company Goldman Sachs & Co where, as an executive director in the Risk Management division, he is in charge of advising the group on European projects and policies. He is the co-author of a book entitled* The economics of prosperity.

MAKING UP LOST GROUND

For a major part of the last century the railway was the principal means of integration in our societies, and in this century the car and the road network have assumed this role. In the near future, this integrating role will be passed on to communication systems, which could be seen as information highways.

In the words of David Blake, 'this is a field in which Europe lags far behind the rest of the developed world because there are still too many different types of barriers. Take for example this lap-top: I can plug it in anywhere in Britain and transmit my data, but in France or Germany the plug does not fit the socket. The monopoly held by national telecommunications companies has caused widespread fragmentation of the market and standards, and it seems to me that we have done very little up to now to improve this situation.

Enormous profits

This is, however, a matter of great importance where a lot of money is at stake. All telecommunications authorities currently rake in enormous profits from communications between European countries which are, after all, neighbours. The cost of a telephone call from London to Paris, for example, is much higher than for a call from London to Edinburgh, even though the distance is shorter.'[1]

This should not be the case. This problem of costs is an artificial barrier to the transmission of information and communications in general, and is an obstacle hindering the construction of a European market in a field where there is likely to be substantial growth over the next ten or twenty years.

'At *The European* we intended to offer telematic information services which our readers could have used simply by telephoning: in practice, we had to drop the idea because all the national billing systems are different and the international exchanges are unreliable.'[1]

This has two effects. First of all, it slows down the pace of progress. Then, in areas where there is progress, it tends to be channelled or dictated by the Americans, who have gained experience from technology which is up and running over there, and have dominated their own market. 'They can probably repeat the whole exercise in Europe much more effectively than we could manage ourselves!'[1]

Vulnerable and only half-aware

Do you think that a networked Europe will be swamped by American technology?

'Europe is to some extent vulnerable and yet not fully aware of the fact, quite simply because things are not progressing the way they should. One of the major changes taking place nowadays is the advent of electronic working, shopping and living but, because of the aforementioned barriers, Europe is quite simply incapable of keeping up with the pace.

It is not just the fact that the Americans dominate certain sectors, but more specifically that in many areas things which could be done if the will was there quite simply do not happen for want of initiative or organisation!'[1]

Is this criticism levelled solely at information networks?

'It is actually a fairly general shortcoming. Our motorway network is clearly still a long way short of the American system, and high-speed trains still grind to a halt at national frontiers.

While it is true that some progress has been made, such as with our fairly good national road networks, what we lack are the sort of high-class communications networks the Americans enjoy, and the prospects for radical and rapid change look pretty slim.'[1]

WHAT CAN STATISTICS PROVIDE?

Integration and standardization, thereby making many different concepts compatible. Is this not a field where statistics can come up trumps, since they excel at comparing different situations?

Statistics will need to keep a constant check on the progress of this networks policy and its effects. What do you think they should actually measure?

'Various parameters need to be measured, starting with the effectiveness of the communications and comparative prices. What we particularly need is comparisons and information on the effectiveness of communications between the different countries and from one place to another within each country.

When it comes to observing the communications, it will certainly not be easy to separate the networked transmission of data for professional use from data intended for entertainment or recreational purposes, as the same technology is used to transmit both. There will not necessarily be any need for a new network of cables or optical fibres, since there is talk in the United States of a virtual system which will gather together all the existing modes of telecommunications and make them work in unison. This process is absolutely essential in terms of both integration and competition!'[1]

Healthy competition

Competition policy has a very important role to play here: one of the main things it should help achieve is a reduction in communication costs between countries. 'If you are in business and have to make cross-border communications, you are still at a serious disadvantage.'[1]

Given the monopolies which exist in the field of communications, which elements in particular should be monitored by statistics?

'I would say that statistics should produce exact figures on market concentrations and price differentials. Perhaps one of their most instructive functions would be simply to provide the general public with more information on the growth in the volume of communications, the development of information channels and the cross-border infrastructures being set up.

In the United Kingdom, for example, the government has started to take an interest in everything which moves quickly in the economy (unfortunately, statistics still lag way behind current affairs), and one piece of information which the government draws from British Telecom is simply the number of telephone calls made: when one analyses both their origin and their destination, they become one of the most immediate indicators of economic behaviour around at the moment.

Very revealing information

If we had more data of this type on a pan-European scale, the information would certainly be very revealing. Together with statistics on trade between Member States, the data on telephone calls would certainly be a very accurate reflection of the integration process, and for new media such as video conferences it is absolutely essential to be able to gauge what will happen, since the growth rate will probably be phenomenal.'[1]

Will this directly concern the consumer?

'While there will of course be a large number of applications for the general public, it is in the business world in particular that electronics will significantly increase efficiency.

THE KNOCK-ON EFFECTS OF INCREASED EFFICIENCY

In the 1970s, and even more so in the 1980s, an enormous amount of investment was poured into data processing technology and computers, some early versions of which now seem downright prehistoric. For a whole variety of reasons, it is only now that this investment is beginning to have an effect and bear fruit, including its obvious and unfortunate negative impact in terms of employment.

Be that as it may, the concept of efficiency is now making itself felt in the business world. Production systems have become extremely efficient, so much so that areas where productivity is not up to scratch are impossible to overlook and remedial action has to be taken immediately.

Electronic management

Our objective might be that of an integrated European economy, but until we can develop a communications system capable of overcoming all the barriers and while we still have to face compatibility or sometimes even straightforward capacity problems, we will not be going anywhere. This applies not just to the telecommunications industry, but to all industries which have a need for telecommunications. They should all be able to exploit electronic management to the full, or else they might find they have been overtaken by competitors working thousands of miles away!'[1]

STATISTICS, DEMOCRACY AND MEDIA CONTROL

With regard to statistics and democracy, what can we expect from the development of trans-European networks as a whole and information networks in particular?

'One of the basic demands of democracy is the greater dissemination of information and easier access to it. The networks need to be designed with this objective in mind.

Furthermore, the need to understand how things are developing in different societies makes comparisons between countries essential. Take, for example, the way the press deals with problems such as public health. Everyone is agreed that these should be given more attention, but when you compare Germany, France, the United Kingdom and the United States you see that their governments have no clear idea of how to tackle the problem, leaving society somewhat confused. None of them in fact realize that the same debate is going on at the same time in neighbouring countries and no real effort is made to find out what answers their neighbours have found to the same questions or what solutions they intend to apply to essentially the same problems.

To me it is absolutely vital that information networks (and statistical information networks in particular) make it easier to pool different experiences of comparable situations and that society has access

to this melting pot of ideas to put it in a better position to judge the actions carried out by its leaders.'[1]

Using knowledge to the full

Society has, however, only a very vague idea of the volume and wealth of information at the disposal of the statistical services. Even software houses which develop business communications systems serving the most varied of administrations have hitherto shown very little inclination to give much consideration to statistics.

Do the media have a role to play in drawing attention to this shortcoming?

'Of course they do! Newspapers and television can, and indeed should, provide more information about this field, raising public awareness about the enormous source of objective and strategic information offered by statistics. I also feel that the media should take great pains to stress that this statistical information needs to be much more accessible and widely-available.

You should never underestimate how difficult it still is to obtain this statistical information in a form which we journalists can use. Take this publication, which contains a lot of basic economic data, particularly from the OECD: in this paper form it is impossible for me to input a computer and ask for the specific graphics I desire. In very many cases, even when I receive information on diskette, it is still impossible for me to process it without losing three-quarters of the formats. Just a few more of the barriers which need to come down!

This is a complex problem involving hardware, software and the generation gap! My generation was brought up with paper statistics and could not conceive how a computer could process, illustrate and visualize these statistics. The current generation, on the other hand, expects to have direct access to this type of information at its fingertips, and to be able to work with it.

Twenty years ago, the talk was of central computers and massive databases to which millions of terminals would be connected, but things did not happen as planned and the emergence of the PC and portable computer has been made possible by the breathtaking fall in the price of computers. The price of communications has not decreased, however, which is why the link-up which could have occurred between large central computers and the millions of users never took place. But this has got to happen some time, and it should be the next radical change awaiting us if the trans-European networks are set up as planned and communication costs are adapted accordingly!'[1]

From paper statistics to electronic statistics

It is possible that the transition from paper statistics to portable electronic statistics will lead to a profound change in the traditional method of using these statistics, which had hitherto been too often regarded (mainly by the media) as flash statistics giving up-to-the-minute information for that day. In actual fact, electronic statistics linked up to networks capable of going back in time to compare current information with corresponding data from ten or more years ago should be able to illustrate causes and effects and relativize various developments, etc.

As Mr Danzin, a member of the Club of Rome, reflects: 'Under pressure from the flow of information gushing out every day, concern for the immediate future diverts attention from analysis of the past and contemplation of the longer term. Europe needs to come up with a technical response whereby the standardization of these means of data dissemination will be governed by norms and standards. It also, however, needs to provide an ethical response, because the way things are going it looks as if we are drifting towards a short-term society where long-term strategy is replaced by one-off measures and democracy gives way to media control.'[2]

Given that this ability to explain the present by comparing it with the past and projecting into the future is one of the main strong points of statistics, should this not be pursued relentlessly, and are the media not likely to press for its increased use?

'This is indeed a vital issue. The new technologies and networks are finally going to make it possible for everyone in employment, the business world, journalists, the media in general, and even the individual citizen, to use statistics properly and, I might say, creatively.

With paper statistics you can see and use only what you are given. With electronic statistics and good access networks, you can call up mountains of data just sitting at your terminal, wherever you may be. You can find the information you need and then do what you want with it.

New possibilities

Henceforth, a host of new possibilities for analysing and understanding economic, political and social life will be on offer to professionals whose job it is to provide information in these fields. Besides, one of the proposals I have made in this journal was to lay more emphasis on the statistical expertise of our collaborators. Now that statistical information is beginning to become available in a form which we can utilize positively and constructively, both we and those working with us need to understand and use it correctly.

This is a significant change: if statistics become easily accessible at a reasonable price, this will be of enormous benefit to democracy: not just the press, which is always keen on paying nothing for this substantial raw material given that it is, after all, helping to disseminate it, but the whole of society can benefit. Take, for example, small pressure groups (not multinationals which can afford to pay for the services of swarms of lobbyists, but groups of ordinary citizens who wish to defend such causes as a housing policy, educational ideas or the means of cultural expression): most of them cannot afford the luxury of devoting any money at all to statistics.

Statistical information is a basic right and is one of the most valuable assets a government should be able to offer its citizens. But we should be wary of the trend emerging within a number of statistical services which are adopting a more out-and-out commercial approach, as I fear that they are veering towards a purely profit-seeking attitude which would put statistics out of the reach of the ordinary citizen.'[1]

VISUAL PRESENTATION

One of the challenges facing statisticians is to make optimum use of all the modern techniques for the visual presentation of statistics, as the graphics potential offered by computers is staggering.

What does the media look for from the marriage between computers and statistics?

'An enormous amount! All statistics nowadays can be presented in a much more sophisticated format than the media are used to. This, in turn, is an area where the media fall well short of their readers' expectations. Compare what you find even in financial newspapers with the documentation banks produce for their customers and it is hard to take the newspapers seriously!

The problem is once again the existence of all these barriers, and the incompatibility between different types of software which results in formats being lost during processing, etc. I am, however, convinced that all these developments will come about, particularly with the advent of information highways. Until such time, however, it will not be the newspapers themselves which will make the effort to adapt their software, and we will need to design the necessary gateways or interfaces for them, or else present them with formulae which are 100% compatible.'[1]

Everything is relative

The editorial staff of newspapers are bombarded every day with hundreds of figures from the most diverse of sources, and it is not even possible for them to check whether the orders of magnitude are correct. One of the virtues of statistics is their ability to structure information and take a relative look at its components over space and time.

Would it not be possible for electronic statistics carried on large information networks to act as a constant point of reference for statistical information in general? Could they not add considerably to the comments on statistical events relayed every day by the media?

'Absolutely! The work currently being carried out by Eurostat with its press releases, for example, is excellent, as it seeks to relativize current information and put it in a geographical or historical context. Journalists greatly appreciate this work, which makes their job that much easier.

In the long term, however, journalists cannot expect to be handed this type of press release and will need to produce the work themselves, carrying out their own analyses by making use of the different databases. This is what we need and it is in the pipeline.

The information which journalists currently receive is — with a very few exceptions — provided in paper form and is often the sum total of the statistics available to them. In the short term, they will need to be able to access a wide range of statistical series on CD-ROM, for example, so that they can at least work with historical data. The disadvantage of CD-ROM, however, is that it is not sufficiently up-to-date and an on-line connection will, at the end of the day, be essential.'[1]

What interaction?

Pending the advent of networks, how do you rate certain new interactive products such as CD-I?

'I am not convinced by what I have seen of them to date, and in any case they are only a partial solution to our problems. It is clear that what lies ahead is the fusion of the telephone, television and computer, which will all come up on screen. Without a doubt, in ten years or so, or perhaps even earlier, something will arrive in my living room by optical or standard cable carrying both my work information and my leisure information. All this will appear in the same box. But the burning issue is: who will have control of this box and the information it spews out? This is a question which poses a challenge to the idea of democracy and it is a question which needs to be asked now!' Let us hope that democracy is not trampled underfoot by media control.

WHAT PRIORITIES?

If you were a Director at Eurostat, knowing what you know about the media and their needs and what was planned for the networks, what would be your priorities?

'First of all, I would press on with the current work on disseminating information to the general public, where Eurostat has excelled itself with a number of publications such as *Europe in Figures* and the *Portrait of the Regions*. The current press releases are also excellent and live up to journalists' expectations. In short, I would certainly not sacrifice any of the efforts currently deployed to bring statistics closer to the general public by encouraging the media to constantly relay all these messages.

I would, however, do all I could, and as quickly as possible, to find a way of electronically transmitting Eurostat information to the media. I might even seek the involvement of software houses and intermediaries specializing in the electronic dissemination of information to decide with them which methods and standards would be the most appropriate for reaching the media.

In the meantime, CD-ROM could effect the transition and provide historical data which are updated as often as possible. If you want the media to make full use of statistics — which they should much more than they currently do — you need to make life easier for them. One agency's computer needs to be able to work in perfect harmony with another's and be able to exchange messages in all formats, and I am certain that once this is the case Eurostat will be used as a top-quality source of instantly accessible information.'[1]

Short or long-term considerations?

After having made statistics instantly accessible and immediately available, the networks will strengthen the role of flash statistics in helping with short-term decision making.

What should the media view as more important? This type of instant statistical information, or figures which regularly scan the past on a given theme, subject or territory in an attempt to project experiences or trends observed into the future and thereby provide much more

sophisticated information which lends itself to more in-depth analysis?

'I feel that both are equally important. As far as I am concerned, as a journalist I would prefer to be able to carry out my own analyses, but this is not necessarily a journalist's trade and many are quite happy for these analyses to be done for them. Besides, this allows them to write: "According to a Eurostat/OECD analysis ..." or "it would appear that ...", which, for a journalist amounts to telling a credible story because the source quoted is credible. However, if a journalist writes that his own studies have shown this or that, the message might not get across so effectively. At any rate, that is how things stand at the moment and it depends on the journalist's own reputation whether the article will sell or not.

Two types of press release

Until such time as journalists can gain access to electronic statistical information, it might perhaps be an idea to devise two types of press release: the news flash type currently produced by Eurostat, which gives brief and concise information on the subject it has chosen to illustrate, and much more detailed press releases containing analyses of an altogether more substantial nature. The statistics in the latter would be accompanied by a host of meta-statistics explaining the origin of the data, how they have been processed, how they can be interpreted, the lessons already learnt from the observations, comments by any academic or professional circles involved, reactions by the various parties to the observations made, etc.

These press releases would have to be written in plain language which was easy for non-statisticians to understand, and the terms chosen should be such that they could be easily inserted into the columns of the major dailies and more specialized publications without any need for the journalist to call on someone to interpret the statistics.'[1]

Provide further encouragement

'The confirmation that these networks will be set up and that access to them will be arranged is already helping to encourage new forms of cooperation between statistics and the media, but I feel that the European statistical system needs to do all it can to further promote the development of compatible information networks.

On the other hand, when it comes to modelling economic phenomena we should, by the end of the decade, be devoting much less attention to national forecasts. What we really need are European forecasts on the one hand and and regional forecasts on the other. Let us take an example from France. Lille and Marseilles represent two extremes: clearly, what happens in Lille is largely influenced by events in the south of Belgium and vice versa, so national accounts will be of less and less interest. We will have to be able to work on econometric models on a European scale which cover the whole of the territory of the European Community and can help explain, for example, why and how the Bundesbank changing its interest rates in Frankfurt should have an impact on companies in the Bordeaux region. Who at the moment takes the trouble to show this and offer the media this type of information? Once European statisticians have access to adequate communication networks, this task should not be beyond them, and their work will be relayed quickly by the media, believe you me!'[1]

A lot of operators in the private sector have problems with scaling-up national analyses, figures and forecasts to a European dimension because of the lack of integrated economic analyses on the Community. The latter are probably only to be found within certain specialist units at the Commission or certain bodies which are either unknown or inaccessible to the general public. The media have a role to play in spreading the word about these, and they will play this role to the full once the information networks (particularly for statistical information) enable them to draw on the correct sources.

Changing mentalities

'And now a cautionary tale! Some time ago, I was feeling quite pleased with myself as I had been able to find the equipment and system I needed to gain access to an electronic information service. Choosing a country at random, I hit on Denmark, selected a piece of information and found that it was 18 months out of date! But worse was to come: when I selected the figures I was looking for, they came up in millions of pesetas Not too impressive!

The telematic systems we need should enable us to find the information we are seeking wherever it may be, even if we have not got the slightest idea where to look. The old barriers must come down. Although society in general has only a very poor idea of the wealth and immense potential of statistics, statistical services do have an enormous responsibility to assume and should take advantage of the most advanced technology available at this historic point in time when the main operators in the telematics industry seem keen to join forces in pushing the world of data processing in general and the PC environment in particular towards a radical technological upheaval which can only be accentuated by the arrival of networks.

This technological revolution should go hand in hand with a complete change in the mentality of users of public service statistics. The day when an operator such as the Deutsche Bank bases its day to day decisions on statistical information it has siphoned off from official European electronic databases will be a genuine triumph for official European statistics conveyed on trans-European networks.'[1]

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1 Interview with Mr David Blake, 27 January 1994.

2 Danzin A., member of the Club of Rome: 'Le traitement et l'élaboration de l'information: l'Europe face à sept défis majeurs' in *Annales des Mines*, May 1992, p. 39.

NEW STATISTICAL COOPERATION WITH THE COUNTRIES OF CENTRAL AND EASTERN EUROPE

Brussels, 17 January 1994

The signing of the joint declaration between Eurostat and the statistical offices of the seven Central and East European countries which are seeking to join the European Community was attended in Brussels by the ambassadors of the seven countries, the presidents of their statistical offices and the Director-General of Eurostat, Mr Yves Franchet. The occasion was marked by the presence of two Members of the Commission, First Vice-President Mr Henning Christophersen and Vice-President Sir Leon Brittan.

TARGET: ACCESSION

Seven countries of Central and Eastern Europe — Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia — are seeking to join the European Community. Their membership was approved in principle at the Copenhagen Summit, but no date was fixed for when this would come about. It was agreed, however, that membership would depend on a number of conditions being met.

With the aim of laying the groundwork for talks on accession, those involved agreed that a certain amount of statistical information would be needed.

Role of statistics

The presidents of the statistical offices of the seven countries and the Director-General of Eurostat, Mr Yves Franchet, have consequently drawn up a plan of action to prepare for membership.

'It is the first time that decisions on accession will be so closely linked to the results of statistical work which has been coordinated on both sides.'[1]

Aware of the difficulties

There will of course be many problems to cope with, and not limited solely to the question of how to establish between Eurostat and the seven countries the right conditions for a common language and how to set up an effective statistical dialogue in a climate of total understanding. There will be difficulties, too, in getting the statistical systems of these countries working properly.

'It is particularly important for politicians to be fully aware both of the importance and of the difficulties in establishing sound official statistics. The integrity and independence of official statistics can be safeguarded only when the decision-makers remain outside. It is vital for them to be realistic in their expectations. They must not assume that sound official statistics can be achieved quickly, at little cost, and with no planning.'[2]

THE PLAN

The main points of the joint declaration signed in Brussels between Eurostat and the statistical offices of the seven countries cover:

- the introduction of the legal and administrative measures needed to establish statistical services suited to a democratic society and a market economy;
- preparing for the introduction of the statistical standards, classifications and methodologies used by the European Community and the rest of the world;
- preparing for the forwarding of the data needed for the accession negotiations;
- ensuring that, by the time of accession, the seven countries are capable like every Member State of providing all the statistics which the Commission requires.

A MATTER OF TRUST

The role of statistics, both within and outside democratic societies, was strongly emphasized in the speech by Mr Christophersen, who also stressed the need to win the trust of the public.

'Whether these statistics measure the progress of the economy, or the pattern of trade relations, or even such basic matters as the health and welfare of our citizens, they are a cornerstone of any democratic structure. For the man in the street, they are one of the ways he can judge the state of the nation. And they can provide a very good way of doing so, since statistics as a rule endeavour to measure things without the slant

which governments inevitably try to put on the information handed out to the public — and not always with the best of intentions, it has to be said!'[3]

Mr Christophersen concluded by saying: 'It is my belief that the seven countries are themselves the first to acknowledge the crucial need for the cooperation which we are now committed to. And that of all the many steps to be taken along the path which will lead them to membership of the group of nations inspired by the spirit of democracy and of the market economy which has become the European Community, a statistical system linked to the rest of Europe — and beyond, to every democratic nation — is one of the most important.'[3]

[1] Interview with Mr Alain Chantraine, 27 September 1993.

[2] Speech by Mr Yves Franchet, Director-General of Eurostat, at Sofia University, 6 May 1993.

[3] Speech by Mr Henning Christophersen, First Vice-President of the Commission, in Brussels, 17 January 1994.

MISSIONS, VISITS AND MEETINGS

AGREEMENT WITH SLOVENIA

An agreement was signed on 21 March 1994 in Ljubljana between Eurostat and the Slovenian Statistical Office with the aim of providing the Slovenian Republic with a statistical methodology and guidelines on EC legislation in this field, developing a programme of technical assistance (training courses, seminars, pilot studies, study visits, etc.) and helping with publications and other activities, including the exchange of statistical information.

The Slovenian Statistical Office was represented by its Director, Mr Tomaz Banovec, and Eurostat by Mr Alain Chantraine, its Director for International Relations. Mr Marc Janssens, the EC Ambassador to Slovenia, and other ambassadors from EC Member States attended the ceremony.

DEMOGRAPHY AND COOPERATION

Eurostat took part in the fourth meeting of the group of experts held in Skopje from 18 to 22 February 1994 to settle on the law and questionnaires to be used for a forthcoming population census in the former Yugoslav Republic of Macedonia.

Following a further series of consultations, the group of experts delivered a favourable opinion on the draft law produced by the authorities in the former Yugoslav Republic of Macedonia.

At its meeting of 4 March, the PHARE programme management committee endorsed this project, which would receive some ECU 2 million in financial assistance.

IMPLEMENTATION OF THE WHITE PAPER

At the meeting on 7 January 1994 between the Directors-General and Mr Delors, President of the Commission, the latter stressed the need for wide dissemination of information describing the implementation of the White Paper. Attention should be focused on three main areas:

- internal market/networks: note should be taken of the criticisms made regarding the means of financing the networks and their impact on the environment (coordination task for Vice-President Christophersen);
- information society: the emphasis should be put on support for the Member States' plans and ensuring the smooth operation of the market (mix between deregulation and flexibility);
- employment/training: there was a need to resume the social dialogue and to use some of the Structural Funds to improve matters in this field.

During the discussions which followed his presentation, Mr Delors gave his full backing to the proposal made by Mr Yves Franchet, the Director-General of Eurostat, to extend the range of indicators analysing economic convergence to include some social indicators and a number of indicators highlighting environmental constraints.

ENVIRONMENTAL STATISTICS

The European Environment Agency was formally set up on 29 October 1993 when it was decided to locate it in Copenhagen. The first meeting of its Management Board, attended by Mr David Heath (Director of agricultural, fisheries and environmental statistics), was held on 17 December 1993 in Brussels, followed by a second meeting in Copenhagen on 8 February.

At the third meeting on 15 March 1994, Mr Franchet (a deputy member of the Management Board) presented Eurostat's programme for environmental statistics.

As Eurostat is involved in the EEA Management Board, it plans to make a constructive contribution towards planning all the EEA's activities by making sure that proper use is made of the statistical system as a source of both data and expertise in the field of environmental information at Community level.

At its two meetings of 19 January and 9 February 1994, the Council's Working Party on the Environment examined the proposal for a Council Decision adopting a four-year programme aimed at the steady development of official statistics in this field. The discussions stressed the need to avoid all duplication with EEA activities (see above) and to clarify the links between this Decision and the Statistical Programme.

It is to be hoped that, five years after the initial draft text was drawn up, this Decision will finally be adopted in 1994, thereby giving a fresh impulse to statistics on the environment within the NSIs and Eurostat.

Lower emission levels

A meeting was held in Brussels at the beginning of March 1994 on statistics on CO_2 emissions, during which the latest estimates for emissions during the period 1980-92 were presented. For the first time, these included data for the former-GDR which have been supplied since 1990. Whilst the good news is that CO_2 emissions in 1992 were lower than in 1990, it would appear that this decrease is entirely due to restructuring in the former GDR.

Waste

A meeting of the EC Committee on the adaptation to technical progress was held in Brussels on 10 March 1994 to discuss the development of harmonized statistics on waste. Eurostat was involved in this and in the OECD Committee on waste management which met in Paris from 14 to 18 March. An information meeting had previously been organized in Paris on 24 February, which included a progress report on a feasibility study dealing with the development of a classification for statistics on waste piloted by the IFEN (French Environment Institute).

The end of March should see the publication of a document made up of studies on the application of the Seriee (European system for collecting economic information on the environment) programme, in which several Member States and EFTA countries were involved. A joint Eurostat/ECE meeting was held in Geneva from 23 to 25 March 1994 to discuss and approve the European standard international application of environmental protection expenditure and facilities.

Associations and federations

In the context of its relations with the trade associations, Eurostat presented proposals for measuring environment-related expenditure during a FEBI/UNICE meeting. These proposals were accepted by various federations and discussed by a working party which met in Frankfurt on 28 March 1994.

ENTERPRISE PANELS

From 21 to 23 February 1994, Eurostat played host to a working party made up of international experts in panel methods, panel users and representatives from the Member States.

In actual fact, Eurostat has been carrying out studies aimed at developing enterprise panels since the end of the 1980s, and this project known as Europan (European enterprise panels network) is currently in its third phase. It has been set up on the foundations of the previous two phases, known as Pansin and Creuset.

In view of all the work already carried out by Eurostat in this field, this meeting proved necessary not just to take stock of what had been achieved and present the state of the art but also to discuss future activities. These will no doubt be influenced by the opinions of three groups: the users, those producing statistical information and the experts in methodology.

That is why the committee organizing this seminar made sure that each of these groups was well represented, so that all the key operators could discuss the issues openly and inform Eurostat of their plans and future projects in this field.

Over 100 people attended and some 36 papers were given. Mr Defays, who is in charge of research and development activities and statistical methods at Eurostat, gave a presentation of the Statistical Office's future activities in connection with this project.

During the final session of the seminar, which was split into two groups (one chaired by Mr McGuckin of the US Census Bureau and the other by Mr Lavallée of Statistics Canada), the participants discussed the plans put forward and offered many useful suggestions.

A summary report of this important meeting can be obtained from the project's secretariat (tel: 352 4301 34756). The minutes of the seminar will be published in the summer.

HARMONIZATION OF CONSUMER PRICE INDICES

As part of the planning process for Economic and Monetary Union, the Working Party on the harmonization of consumer price indices, which includes the applicant countries, approved a new strategy proposed by Eurostat.

Subject to approval by the DGINS, this plan would, shortly after the end of the year, set up a framework regulatory council within which the Member States will produce consumer price indices on a comparable basis with the aim of assessing convergence in the field of inflation. This is one of the preconditions for adopting a single currency.

The process proposed means that the consumer price statistics recommended by this Working Party could be implemented without needing to wait for a future legal procedure, thereby speeding the whole process up by at least a year.

DOSIS (Research activities on official statistics)

On 2 March 1994, Eurostat's proposals for research activities on official statistics were examined by a Task Force. The main working document presented at this meeting set out the topics proposed as a follow-up to the previous programme (DOSES — Development of statistical expert systems 1989-93). It is intended to start work on the topics presented under the fourth R&D Framework Programme.

Representatives from the NSIs of five Member States (Netherlands, France, Italy, United Kingdom and Germany) and Sweden took part in this meeting, which produced fruitful discussions and valuable opinions on the fields of research proposed for official statistics.

Those present stressed the need for Eurostat to press on with initiating and stimulating research and development on official statistics. The NSIs voiced their strong support for the proposals contained in the DOSIS (Development of statistical information systems) working document. All the delegates also signalled their intention to be actively involved in drawing up, carrying out and assessing research activities, and in applying the results achieved by these efforts.

CONFERENCE OF EUROPEAN STATISTICIANS

The Bureau of the Conference of European Statisticians (CES) met in Geneva from 28 February to 1 March 1994. Mr J. Olensky (Poland) replaced Mr P. Guzhvin (Russian Federation) on this Bureau.

The main aim of the meeting was to prepare for the 1994 plenary session of the CES scheduled for Paris concurrently with the OECD from 13 to 17 June of this year.

This year the Bureau's report will be combined with an integrated presentation of the statistical programmes carried out by the United Nations (UN-ECE), the OECD and Eurostat.

The topics discussed included the possibility of the CES contributing to the world summit on social development which is to be held next year in Copenhagen, a proposal for a UN-ECE statistical yearbook and a minimum statistical programme to be developed by countries moving towards a market economy.

A report on this meeting is available from the secretariat of the unit concerned (tel: 352 4301 32459).

NEW PRODUCT ON THE ECU

As of March 1994, Eurostat will be publishing a new product, in the form of an ecu yield curve calculated by the Commission.

This curve shows the structure of interest rates between 1 and 10 years and is based on top-quality sovereign loans (triple A) which amount to at least ECU 500 million and are very liquid (bid-offer spread of under 50 base points).

The curve is calculated by regressively adjusting the chosen function (whose form is constant) to values provided by the ISMA (International Securities Market Association). These values reflect the bid-offer quotes of a comprehensive range of financial institutions.

EUROPEAN STATISTICS AND THE MEDIA

Seminar organized by Eurostat — Luxembourg, 25 November 1993

It is important that official statistics be communicated to the media in an efficient and appropriate way. In early 1993, Eurostat asked John Wright, a member of the UK Government Information Service on secondment to the European Statistical Office as a press adviser, to launch a programme of news releases. This seminar provided an opportunity to take stock of this type of action and explore new forms of dialogue with the media. It also provided an opportunity for directly involving official statisticians from the EEA[1] countries, where European statistics are already becoming established.[2]

WHO'S INTERESTED?

In his introductory talk, Mr Yves Franchet, Director-General of Eurostat, explained why in the past Community statistics appeared not to have been of particular interest to the media...' For many years, the main users of Community statistics were the Commission and government departments within the Member States, to build the Community. That is probably why they were of no particular interest to the media! The faster pace of Community integration and an expanded field of activities have profoundly changed this situation. Within the single market and the European Community, all economic and social operators have an interest in Community statistics and a right to access these. These statistics are essential to the smooth running of democracy and of the single market in the Community.'

Statistics and politicians

Statistics certainly do not leave politicians cold. 'The fact that politicians can feel uneasy about the publication of statistics underlines their importance as a public commodity. Unfortunately, the public may often find them boring and difficult to understand. The media, finely tuned to the public mood, tend to reflect this attitude, which makes it easier for politicians to brush embarrassing statistics under the carpet...' (John Wright, Eurostat).

So the danger is that the media are not even told about the most interesting statistics. But the problem is also that what the press usually considers to be of interest to the general public must cater to a certain taste, it must meet the need for sensationalism. And statistics are not generally this attractive. 'One of the characteristics of statistics is that they are not political. Statistics should reflect as accurately as possible the economic, social and environmental situation throughout the Community, without any political interference or pressure. They must be available to government authorities, private bodies and the general public. They are and must remain an essential component of the information system in a democratic society.'[3]

As John Wright put it, 'the aim of official statistical services must therefore be to try to show the public, through the media, that statistics are important by making them interesting. And by the nature of their release — self-evidently free from political manipulation — to enhance their credibility; because statistics that are not believed are of no use to anyone.'

Networks to be monitored and ideals to be maintained

If we're not careful, the danger is that the press, one of whose most fundamental roles is to monitor and criticize those in power, will make insufficient or incorrect use of statistics and so miss valuable opportunities to fulfil the function that the public expects of it as the guarantor of certain ideals: 'the weakness of official powers today, including democratically elected powers, is cause for concern, as it leaves a vacuum that might be filled by less democratic forms of power. It also ill conceals the emergence of less controlled powers that play on the new complexity of the world, make full use of computer-network or information resources and flaunt frontiers; the powers of monetary speculation, for example, or of the major American audiovisual companies. We will have to learn to better identify these new forms of power, so that we can better control them and so maintain the democratic ideals of our society.'[4]

An obligation

Are statisticians under an obligation not only to produce the relevant data, but to do their utmost to bring these to the attention of the public?

The answer is clearly yes. One of the jobs explicitly assigned to Eurostat is 'to disseminate statistical information to Europe in gen-

eral, to businesses and to all concerned with economic and social matters, for their decisions.'[3] This mandate actually puts the general public before businesses and economic and social operators as the prime recipients of statistical information

The problem

'The problem that the statistical offices and Eurostat must solve is simple: do you or do you not want to be known outside, such that everyone — right down to the statistical layman — can understand the staggering amount of figures and data that you process and manage? If the answer is yes, the problem is as follows: how do you ensure that what you issue is understood the way you want it to be, how do you ensure that the stories you mean to tell are not distorted? Translating your knowledge and data into a language that the press can understand is an extremely difficult and tricky job. You have to know how far to go. I must admit that since I've been covering Europe, the Eurostat press releases have been one of the things I appreciate most at the Commission:' (Jeremy Gaunt, Reuters).

A CONSCIOUS POLICY

In 1993, the Commission, prompted by Commissioner Mr Pinheiro, decided to adopt a new approach to its information and communication policy.

'Our approach is in line with the information policy required by the Commission. One fundamental aspect that was stressed was the need for greater transparency between actions and the way they are depicted by the media.

Major advances have been made in constructing the European Community, but the citizens of Europe have not, unfortunately, been sufficiently informed about these advances. Any efforts that have been made are due largely to the media. The Commission, acknowledging the lack of effort made in the past, intends to learn from this by publicizing its actions. This is the background against which Eurostat is organizing this first meeting between representatives from the press on the one hand and the Directors-General of the European statistical offices on the other. Many similar activities will follow'. (Fernando de Esteban, Director of Dissemination and Information, Eurostat).

A new departure

Eurostat, in consultation with the Spokesman Service of the Commission, has thus established a system of issuing important statistics by news release. These are made available to accredited journalists during the daily press briefings.

A codified procedure

As the timing or content of certain publications may sometimes be sensitive for political reasons, a procedure was codified in a note prepared by Vice-President Mr Henning Christophersen, who has responsibility for the Statistical Office, for Mr Jacques Delors and approved by him. This emphasized the following:

'In Member States and other major countries such as the United States, Canada and Australia, there are strict rules separating the issue of official statistics from the political process. It is argued that the credibility of official statistics depends on their independence and the inability of government officials or politicians to interfere in any way with their release.

The same arguments apply to the regular new releases issued by Eurostat; even more so, because Eurostat cannot afford to fall short of the best practice of Member States — indeed, it should set an example. If journalists become aware of any attempt to change the content or timing of Eurostat releases because of potential political sensitivity — and journalists do easily become aware of these things — then they will draw their own conclusions: that Eurostat statistics are not independent and are not to be trusted. This could be immensely damaging, not only to Eurostat but to the Commission as a whole.'[5]

Under this procedure, the content and timing of regular statistical press releases are solely a matter for Eurostat. *Ad hoc* releases, together with the surveys or reports of which they provide a summary, are sent in advance to Commissioner Christophersen's Cabinet, which may decide that, exceptionally, the nature of certain releases requires advance agreement on changes in content or timing. However, this must happen under exceptional circumstances only, otherwise the credibility of European official statistics will be jeopardized, as will the Commission's reputation for openness.

Boost for independence

This procedure has given a major boost to the independence of European statistics, highlighting as it does the concern to avoid all possibility of a conflict between the desire on the part of statistical offices to publish information and a type of political control of publications.

Self-interrogation

A few months after the launch of this new press release policy, we thought it interesting to ask ourselves a number of questions: what can we now say about the relationship between Eurostat and the media, what conclusions can be drawn from the experience gained at national level, how can we be sure that Community statistics reach those that need them?

THE IMPORTANCE OF THE MEDIA

The media thus play an important role in drawing attention to, and raising awareness of, such statistics. However, whilst links between the NSIs and the media go back a long way in the Member States, those between Eurostat and the media are more recent. 'We are keen to know the needs of the media: there is often a divide between what they want to receive and what official statisticians think they want.' (John Wright, Eurostat).

Good questions...

'The role of the press is absolutely crucial in any statistical system! Statisticians need the press to ask them questions. One of the major problems for statistics is comparisons in time and space. It is absolutely imperative that we make comparisons, and we need the press to ask us good questions, to give us problems to think about. We also need the press to disseminate our data, helping us make them intelligible in the process: statisticians are not born teachers and, despite our best efforts, our training does not necessarily mean that we are using the best means to make ourselves un-

derstood. The press is indispensable if we are to make what we produce intelligible to our citizens!' (Paul Champsaur, Director General, INSEE, France).

A tricky job for statisticians...

As statisticians are not generally used to communicating with the media, they are not always given the press they would like.

'If you look at our press releases, you'll see that they contain numerous graphs...but the press doesn't always use these — it tends to produce its own!' (Joris Nobel, CBS, Nederland).

'In Ireland, when some of our publications appear, the government issues its own press release, adding its own political commentary. Obviously, it is not our job to do this.' (Donald Murphy, Director of CSO, Ireland).

'It must be said that in Great Britain we have an excellent relationship with the press. On the title page of our monthly releases, for example, we always try to highlight some topic or other with the help of figures, the aim being to convey the outlines of the story we're trying to tell in the simplest possible terms. We think this is greatly appreciated. It is, however, disappointing that the press appears to have trouble quoting us systematically as the source...' (Bill McLennan, Director of CSO, UK).

The quality press... and the rest

'One thing we were afraid of when organizing this seminar was becoming elitist. We are comfortable with financial journalists because they are used to dealing with the topics we deal with and communicating with a generally well-educated public. What concerns us more, however, is how we should communicate with those citizens that do not read the specialist press ... and it's likely that 90% of the population of Europe falls into this category... So we should seriously ask ourselves: how should we communicate with them, how should we get our message across and thus ensure that more citizens take an interest in statistics and all they can do?' (John Wright, Eurostat).

'In Portugal, we don't have this problem: we get our messages across to the popular press.... Sometimes, it is only too eager to receive our releases... The problem is not so much how to reach this type of press, but how it uses our information. What we need is quality coverage.' (C. Corrêa Gago, Director of INE, Portugal).

Aiming to cover both

'If we want our statistics to be better known, recognized and understood, we must aim to cover the press as a whole, both the quality press and the rest...; it is the latter that is most likely to manipulate or distort the releases which we democratically try to distribute to everyone.' (C. Corrêa Gago, Director of INE, Portugal).

'How are we to reach the mainstream press? Via the specialist press, of course! We frequently find that what we write in *The Economist* comes up in different versions in the popular press... Providing we have understood and conveyed the message correctly, this is an effective way for statisticians to reach the general public.' (Pam Woodall, *The Economist*).

Tricky for the press...

Is there anything that the press finds irritating about European statistics in particular?

'One thing that frequently irritates me is that the Commission produces forecasts and economic trends in a number of regular publications, but there appears to be little in common between these and what you produce at Eurostat.' (Pam Woodall, *The Economist*).

But what does the press want?

'I want different things for different reasons: it all depends on the type of press and its readership. I have at least three types of users: those that want strictly European reports — newspapers, editors, people interested in knowing about everything that's happening in the Community, regardless of the place, the institution concerned or the subject in question — they want to know everything. Then there is the conventional press — this is a more classic role, played by journalists who should ideally be sold stories rather than figures. Thirdly, there are the financial analysts, operators and traders. These people obviously buy our products to make money. This is where estimates and forecasts are most in demand. Given these three different types of user, press releases that are tailored to each of them would obviously be welcome.' (Jeremy Gaunt, Reuters).

'We basically process two types of statistical data: economic statistics on the one hand and social statistics on the other. For economic statistics, we need figures that are published regularly at both pan-European and national level, with a number of rapidly presented key indicators. There is a great deal of reader demand for economic statistics on each Member State, but they must be up to date. I can't stress this point enough. As for social statistics, I would stress the growing role of electronic means of communication: it would be very useful if we could have access to these databases; increasingly, newspapers want to illustrate their figures with diagrams, producing these themselves using directly accessible electronic data. So anything you do to electronify the process of disseminating data to the media will be very useful.' (David Blake, *The European*).

The price to pay

One question that keeps coming up in this debate is whether the press should be made to pay for the statistical information given to it, once this information is in a sophisticated, elaborate, electronic form.

'In Finland, we try to make our statistical system pay for itself. But not by making the media pay. Statistics for us are a public commodity, and we think that the public has a right to know about what's happening in the country and in the world, so for us the media are the best way of keeping the public informed. It is also their job to keep businesses and the economic world in general informed. And we make use of them all the time — we produce some 500 press releases a year for them. We also try to notify them three months in advance of the releases we will be supplying them' (Heikki Salmi, Director of Statistics Finland).

'We too are more favourably inclined towards the press than the general public: our government asks us to charge for what we produce (we tried to charge the Ministry of Finance and the Parliament, but they refused...)' (Svein Langva, Director General of Statistics Norway).

'Should everything that is currently distributed to the press by the NSIs free of charge in paper form, also henceforth be made available in electronic form? This would be fairly easy to do, using videotex, for example. The same would apply to a schedule of forthcoming statistics...But, if you're talking about specialized, detailed information, access to major databases, then we think you would have to charge all users for this, including the press...' (Joris Nobel, CBS Nederland).

A useful investment

'If we found suitable electronic forms, we would probably be prepared to supply the press with the statistics it needs free of charge. As you know, price policies vary greatly from one Member State to the next. Denmark is very anxious to obtain the maximum return on its investments. Italy, by contrast, supplies almost all its statistics free of charge. We should establish a compromise formula somewhere between the two, taking care to ensure that, in disseminating certain types of data, we do not remove the desire or need on the part of certain users to receive data from their own NSIs, which do ask for payment...We must sort this out amongst ourselves. That said, we will have to consider free distribution to the press a sort of investment that will increase the dissemination of our products.' (Yves Franchet, Director General of Eurostat).

DANGERS AND CRITICISMS

Producing a good press release isn't easy. Eurostat has tried already. A balance must be found between text, graphs, intercountry comparisons, time series, etc. 'Presenting statistics in an elegant, attractive way is an art: making figures talk is a highly skilled exercise....An enormous effort must be made to make them legible and intelligible!' (Heikki Salmi, Director of Statistics Finland).

The most recent techniques for displaying statistics will certainly make work easier. The forthcoming electoral campaigns will provide us with an appropriate opportunity. This is an excellent exercise in democracy: 'During the last electoral campaign, the Norwegian press asked us to try and project the outcome of the promises made by the various parties in terms of employment, balance of payments, inflation, etc. This resulted in a series of articles that compared party policies on the basis of our data, models, etc.' (Svein Langva, Director General of Statistics Norway).

Other experiments in Germany have met with equal success, even though some statisticians may be surprised at the picture they give of them...'We carried out the following experiment: using statistical data, we produced brief weekly articles with fairly eye-catching titles that dealt with topics such as privacy and the financial and professional situation of the individual citizen. These articles could be easily reproduced by journalists with no special statistical knowledge. We were pleasantly surprised to note as statisticians that these news releases acquired almost best-seller status on TV and radio and in the popular press...so much so that we sometimes wonder whether what we're doing is a bit over-simplified...We are simply trying to portray facts neutrally and objectively (how many multi-millionaires are there in Germany and in Europe, what's the infant mortality rate, life expectancy, how does this compare with the United States and Japan, etc.). This is very popular with readers. However, statisticians are sometimes less convinced about this practice...' (Angela Schaff-Bohinger, Statistisches Bundesamt, Germany).

Accuracy and freshness

How accurate a picture does the press give of the products disseminated by Eurostat and the NSIs? And what do the press and statisticians think of the freshness of these products?

'The freshness of figures is a major requirement. But how is it that at *The Economist* we currently find ourselves using Eurostat figures less frequently than the more recent figures issued by the OECD or the IMF, even though neither of these bodies collects statistics directly either?' (Pam Woodall, *The Economist*).

A permanent headache

'This is certainly one of our headaches...When we don't have figures for two of the twelve countries, should be publish the first ten or wait for the last two to arrive? Or should we produce estimates to fill in the blanks left by the missing data? We are probably the only ones who can produce estimates that are representative of the overall situation in our Member States. Why don't we? What's to stop us?' (Yves Franchet, Director General of Eurostat).

'Freshness and quality are two of the major concerns amongst producers of statistics. However, we don't want to force this issue at the cost of quality, even in a bid to provide the press with a better service...' (C. Corrêa Gago, Director of INE, Portugal).

Speed and intelligibility

'Don't lose sight of the fact that speed is of utmost importance! In both Eurostat and the NSIs, nothing should be done that might slow down dissemination. This is our main criticism of European statistics — they are too slow in arriving. Anything you can do to speed up dissemination will be welcome, and in this connection we expect a great deal of electronic communication and the associated networks" (David Blake, *The European*).

'I would say that statistics need to be intelligible as well as fresh. And they should have a bearing on the immediate future. We would, for example, like to have statistics covering the whole of the economic block resulting from the merge of the EC and EFTA as of now. This type of minor difference may not seem important, but it's all that's needed to make an article interesting all of a sudden.' (Jeremy Gaunt, Reuters).

Comparability

'What is expected of us? Top-quality data (which obviously take longer to produce) accompanied by explanations as to how and why they needed to be processed to achieve the required degree of harmonization? Or can we make do with releasing data more rapidly, i.e. data that include estimates, and content ourselves with juxtaposing national data that may not be very comparable? Statistics on services illustrate this dilemma well. Should we rapidly collect as many statistics as possible from Member States, publish them and perhaps even try to ag-

gregate them, whilst drawing attention to their lack of comparability? Or should we first try to make them more comparable, which is much more time-consuming?' (Yves Franchet, Director General of Eurostat).

'We should not underestimate the difficulties! It is not easy to make comparisons between ourselves, much less compare ourselves with the United States and Japan. Each country produces its indices in a different way. Many of the figures that appear in press releases compare apples and pears. Look, for example, at the differences in housing loan practices in France and Great Britain...' (Bill McLennan, Director of CSO, UK).

'We cannot overemphasize the need for comparable figures. Whether we get these from press releases every month or every year, we need a clear indication of what they refer to in relation to the preceding period...This is not always easy to do.39 (Helen Vesperini, *Bloomberg*).

The attraction of science

'We have managed to reach a fairly wide public in a number of scientific fields by means of specialist publications and journals, the scientific nature of which is recognized in the countries concerned. This channel is an option for many users of statistics.' (Clément André, DG X-European Commission, Luxembourg office).

HOW CAN WE IMPROVE THINGS?

Are readers of the press throughout the Community served well by the statistics released by Eurostat, as portrayed by the media? And what improvements could Eurostat make in the future by drawing on the lessons learnt from the NSIs and the media? What changes could the press make in a bid to convey the messages contained in official statistics more accurately?

'The media will only publish something that they know will help them sell newspapers or boost listening or viewing figures. They are not in the business of boring people. So the product you offer them must grab their attention, it must slot into their agenda. So you've got to present them with things in the right way, at the right place and at the right time — and then monitor the results in order to make any necessary adjustments to your product or the way you market it.' (John Wright, Eurostat).

More comparisons

'For us, working on an international magazine such as ours, it is always a good idea to have, in addition to European data, comparable data on America and Japan.' (Pam Woodall, *The Economist*).

'We think such comparisons are essential! Without them, statistics are fairly meaningless. Reference must constantly be made to previous situations, explanations must be given as to what current figures mean, comparisons made with the equivalent situations in Japan and the United States. It is extremely important to place Japanese and American figures alongside European figures in your press releases, even if comparisons do not always relate to exactly the same things.' (Jeremy Gaunt, Reuters).

Emphasis on definitions

'At *The Economist*, we produce regular ratings of the statistical institutes, and one of the things we take particular note of is the way in which these organizations publish the results of their work and research. It seems to us that they take the problems of defining data, methods and concepts, etc. more seriously than you when publishing results. Would it not be possible for Eurostat, as the unifying body, to put more emphasis on this in its publications, could it not provide indications as to how such and such an observation should be defined, what method was used, etc. I for one would like to see Eurostat making more of an effort here.' (Pam Woodall, *The Economist*).

'These definitions are the focal point of our work! And I agree, we don't publish enough here. We have done an enormous amount of methodological work in a bid to harmonize eighteen statistical systems...We are now highly unified at EEA level, and we now have much to say about the problems involved, how to address them, the alternatives, the strengths and weaknesses of each of the parties concerned. We can publish an enormous amount on this subject, and have decided to do so. We hope that this work will help feed the general debate by the media that are (or want to become) involved in economic analysis.' (Yves Franchet, Director of Eurostat).

Giving advance notice of statistics

'As well as fresh statistics, we would also like to know in advance what is going to be published. It's all a question of organizing our editorial staff: if we send out all our reporters on the day when statistics on industrial output come in, we won't have anyone to process them...' (Helen Vesperini, *Bloomberg*).

'As *The Economist* is a weekly publication, our needs are different from those of the dailies, and it's very important for me to know in advance that certain data are going to be published, as we must decide at the beginning of each week how much space we are going to allocate to what. I would greatly appreciate being told at the beginning of each month what is to be published.' (Pam Woodall, *The Economist*).

Analyses

'Don't underestimate the sophisticated nature of the information the press wants to receive (at least the press that you're probably most interested in). I personally would like as many figures as possible, together with historical data, so that I could produce my own analyses. We don't pay economic journalists to merely copy out analyses from planning institutes or specialist offices: we pay them to produce their own analyses and compare these with the official versions, criticise them and draw their own conclusions.' (David Blake, *The European*).

Estimates too

This question is at the centre of the debate. It is first important to establish what the various practices are.

'Of the NSIs, countries such as France, Luxembourg, Portugal and some of the Scandinavian countries currently produce forecasts. Others do not. At the Commission, DG II is in Brussels, and we are in Luxembourg. We are both aware of the need to produce more detailed analyses of our figures.' (Yves Franchet, Director of Eurostat).

'In the Netherlands, official forecasts, which are used by the Government for policy management purposes, are carried out by a special body which is independent of the CBS. We try to take account of these in our contacts with the press. But we are not personally involved in the forecasting process, even though we try to relate the figures we publish to these forecasts. Also, in a bid to serve the press as best we can, we regularly meet forecasting and planning bodies: we meet at least once every three months to find out which forecasts and analyses are scheduled for publication, and to inform them what statistics we will be producing over the same period.' (Joris Nobel, CBS Nederland).

'Our research department is important, accounting for 15% of our staff! It covers all our field of activity, and is particularly active in the field of economic forecasting and the construction of econometric models. We probably dominate the Norwegian market in this field. As in Denmark, we are asked to produce figures that the ministries use to draw up their forecasts. And we find ourselves in the curious situation of producing forecasts using models similar to those used by the ministries and with the same basic data, but arriving at different results...And this is quite inevitable. Forecasting is a highly subjective business, even when the same econometric models and the same basic data are used...The public should be aware of this, it should understand that this may produce different results. This prompts much debate, not only about the quality of the model, but also about how different specialists have used the same data to arrive at different conclusions.' (Svein Langva, Director General of Statistics Norway).

'We should not lose sight of the fact that each of us in our respective countries is serving both our government and the population, i.e. the general public. Generally speaking, this is not a problem. But Eurostat is in a less fortunate position: when, for example, it publishes agricultural statistics, these figures must be agreed on as part of the common agricultural policy, as part of a political process involving all the Member States. The figures produced must be used for tax purposes in particular...This means that estimates cannot be used as a basis for work, even if these have been produced by Eurostat's best statisticians. In the ESS, things do not work as they do in the United States, via a federal agency: here, figures are produced by the countries themselves, and Eurostat can never do this work for them...' (Hans E. Zeuthen, Director of Danmarks Statistik).

Estimates or forecasts?

Does the press ultimately want Eurostat to provide it with estimates where necessary?

'Yes, definitely! After all, aren't all statistics ultimately estimates? All price statistics are estimates — after all, you can't record the sale of every single unit of a given product...The same applies to rates of inflation...When you gauge the temperature of the economy, an estimate is generally better than no data at all....' (David Blake, *The European*).

'In the short term, yes. However, long-term economic forecasting is very difficult without becoming caught up in politics. And this puts the statistical offices in a very awkward position: as instruments of the system of government, they must command the confidence of both the majority and the opposition...Now, forecasting boils down to anticipating how the government is going to act in this or that field. It is very difficult to remain independent of the government of the day whilst at the same time trying to predict how your government is going to act or react...Another difficulty is that each time you get involved in this type of exercise, you have to write a whole book, not just a press release!...' (Hans E. Zeuthen, Director of Danmarks Statistik).

This question is far from simple, and even the classic areas of statistics are not necessarily easy to tackle: 'Even population estimates pose tricky problems, and immigration statistics are a political hot potato...' (Donald Murphy, Director of CSO, Ireland).

A clear distinction must be made between forecasts and estimates! 'These are two entirely different concepts: in forecasting terms, the situation varies a great deal from one country to the next depending on cultures and institutions. In Portugal, we make certain types of forecast. By carrying out short-term surveys in conjunction with various economic operators, we are able to produce econometric models that enable us to make short-term forecasts (two to three months). We think this adds to the value of what we produce. We don't go any further than this, as this would be too much of a gamble, and we do have an image to maintain! Things are different when it comes to estimates designed to replace data that will not be available in time. Without wishing to judge the validity of producing estimates for European statistics, we would say that it is our job to produce these when our own figures are involved.' (C. Corrêa Gago, Director of INE, Portugal).

Adjusting the focus...

'Our statistical system is not really a federal system: we currently have twelve national systems moving towards a Community system, and once this becomes the official basis for framing policies, great demands will be made of it. This is why the problem of estimates must be looked at very carefully indeed.'

However, two points should be made here: firstly, there are a large number of statistics that are not directly involved in decision-making and that do not involve mechanisms for the distribution or collection of resources. Making estimates on the basis of these statistics should not pose any problems. Secondly, this type of discussion leads us to reflect on the quality of our data: if the OECD, for example, is faster than us in publishing certain statistics, this is because we must spend considerable time harmonizing data and making them scientifically comparable, whereas other bodies can simply set them side by side...

One possibility would be for Eurostat to publish national estimates. But this is out of the question. Another thing would be to publish an aggregate, an aggregated estimate for the Community as a whole. For example, if we have 90% of the data in a particular field, why not publish an aggregated estimate, without specifying which data were missing? I do not believe this would be at all damaging to national statistics. And we have the know-how and techniques to do this kind of thing!' (Yves Franchet, Director General of Eurostat).

Better to speak of preliminary data?

'The very role of statistical offices is in question here: we are supposed to publish facts; outside the statistical offices, there are any number of economic institutes whose role is to make forecasts, and these bodies use statistics. If, however, you speak of preliminary data, as opposed to definitive data, it's different, more acceptable. I would thus much rather speak of provisional data than estimates...' (Heikki Salmi, Director of Statistics Finland).

The best procedure?

'In practice, each time we present statistics or quarterly accounts, we proceed as follows: we publish three different types of data:

- definitive data, for previous quarters;
- preliminary data, for more recent quarters;
- forecasts, for the next four, six or eight quarters.

We must obviously constantly review and correct the data from the last two groups.

Generally speaking, around a third of the quarterly data that we publish are estimates, estimates that gradually become definitive figures as time passes.

And we have found that the press is much more interested in our data as a whole when these also include estimates!...The media also tend to be more interested in our estimates than in definitive data...We are constantly stressing that they should present the definitive facts before the preliminary data...

This procedure has enabled us to develop an excellent relationship with the press: we regularly organize conferences to present our figures, and the media have stopped asking us questions of a political nature: they know that we constantly refer to facts or to forecasts based on econometric models and reasoned judgements: we show them the thinking behind our calculations, and everything is explained in detail.

As Mr Zeuthen rightly pointed out, it means writing a whole book every time...The amount of work involved is enormous! We've devoted an enormous amount of time and energy to this, but we thought it our duty to do so. Besides, processing our figures in the same way as our users handle them taught us a great deal. By examining your own figures, you realize what your weaknesses are, and can constantly improve your system.

I therefore feel that we should continue with this experiment. Should our partners do the same thing? It's hard to say — the background is different in each case, and practices are widely divergent from a historical point of view. Each to his own...' (Svein Langva, Director General of Statistics Norway).

THE BACKING OF THE PRESS

Strong feelings

What risk do you run?

'There's no doubt in my mind that if Eurostat produced more forecasts it would be viewed differently by both the public and the media! Given the accuracy of most forecasters in our industrialized countries, you wouldn't really risk being criticized if your forecasts were not accurate...' (Pam Woodall, *The Economist*).

'I would stress the need to be able to compare figures, and link them in more easily with sets of figures previously published. Some references to previous publications seem to me to be missing. We would also like to know who to contact to explain things that are not always obvious, we'd like to know where we could get additional information from, etc.' (Helen Vesperini, *Bloomberg*).

Saturation point

'If you want to make yourself more visible, it is absolutely essential that you adopt a very broad approach. You're like a product, a brand name, that's seeking to increase its share of the market — what you need is a saturation policy! You also need to bear in mind the problems posed by the European postal services, which are inefficient and slow. Hence the need to use electronic systems: each time strategic information is released to the press by post, it has already lost much of its value by the time it arrives...This is why the use of electronic networks, which allow you to saturate the media, will considerably enhance your visibility. In the past Eurostat clealy had a poor image compared with the other major producers of statistics: you should be the first statistician that people turn to throughout Europe.' (David Blake, *The European*).

A cause worth supporting

'Each month, we issue 10 to 12 press releases to accredited journalists; we also issue quarterly, annual and *ad-hoc* releases, dealing with things such as survey results. The press reproduces our releases fairly faithfully, but in a condensed form, whilst the specialist (i.e. financial) press sometimes publishes them unchanged. But in spite of these efforts, we have noticed a fall in the response rate amongst enterprises and households in our surveys. Could the press not help us here by explaining to respondents in greater detail the value of providing the statistical information requested by the authorities?' (Evangelos Hadjipanayiotou, National Statistical Service of Greece).

A human face

'I believe very strongly in an approach that involves putting a human face on statistics and on official statisticians. If journalists are to give us a proper press, they must look more closely at what being a statistician means in everyday terms. They must try to realize that although statisticians work with economic statistics, they are in fact much more concerned with social statistics...And during the informal meetings with the press, you show a human face rather than appearing as anonymous civil servants who don't always have an easy job. It's true that all statistics are estimates, which is why we speak of indicators...But the public requires that these be accurate.... And the public will be concerned about the slightest discrepancy in economic statistics, which it considers important...without knowing why. I see journalists gradually becoming aware of what statisticians are about, how they see things, the problems they have portraying their vision of the world and understanding things. So both sides end up understanding one another better. So if they want to get their message across properly, official statisticians must open up more, they must enter into a special relationship with journalists, convincing them of their integrity, independence and professionalism.

My message, in short, is this: keep one step ahead of the press, and put a human face on statistics.' (Ian Scott, CSO, UK).

Weekly briefings?

'Why not institutionalize a weekly statistical press conference in Brussels in order to draw the attention of accredited journalists to this topic?' (Donald Murphy, Director of CSO, Ireland).

'The best way of operating is to adopt a very broad approach that will stimulate maximum interest amongst as many readers as possible. I would join Mr Scott and Mr Murphy in emphasizing the importance of personal contacts between statisticians and journalists. However, it should be remembered that journalists have no time to waste, and will lend a sympathetic ear only if they are convinced you are telling them something they can use...We are in a seller's information market.' (John Wright, Eurostat).

Stepping up dialogue

'What does the press want? There is no single answer to this question: the interests of the mainstream press are different to those of the specialized press. With the latter, we don't have problems with methodology, estimates, etc. — it's fairly easy to get our message across. However, it's much more difficult addressing the general public! This requires a different way of presenting things, with a lot more explanation in straightforward language that avoids misunderstandings. Take, for example, employment statistics: the specialized press has no trouble understanding our data and requires virtually nothing in the way of explanation, but other media, which are not used to studying and analysing such problems and are not used to the way we think, may misrepresent such data and make judgements that have no bearing on reality. To this end, I have instructed that the Statistisches Bundesamt carry out a study into how, using statistical means, we could try to explain, in straightforward terms, how the structure of employment changes, what sparks developments that are not the result of decisions taken by individuals or governments, but simply the result of changes in the *status quo*. This is a highly complex problem, calling for a great deal in the way of understanding, representation and communication. A start has been made in cooperation, and we would like to take this further with the media.' (Hans Günther Merk, Chairman of Statistisches Bundesamt, Germany).

Capitalizing on strong points

How can we make more of the complementary relationship that exists between Eurostat, the OECD, the IMF and other bodies that produce statistics on this scale?

'It seems to me that the current strong points of the OECD and IMF in relation to Eurostat basically stem from the fact that Eurostat does not have an explicit remit to produce forecasts: there is a clear distinction between the role of statistician and forecaster. But journalists like to see statisticians producing forecasts! The attraction of the OECD for journalists stems, I think, from just that: for us, the reputation of the OECD is based on its forecasts! If we compare the OECD with Eurostat, we get the impression that there is a better marriage between economists and statisticians in the former than between Eurostat and the Commission...There must be something we can do to improve this.' (Pam Woodall, *The Economist*).

'It's true that the OECD is faster than us...It sometimes even publishes our own figures before we do...As an institute of forecasting and economic analysis, it publishes figures very quickly, and one of our objectives is to catch up with it...After all, we must lead the field when it comes to European data! As for the complementary relationship between our institutions, Eurostat and the OECD have quite different jobs. Eurostat will remain a producer of Community data, and will probably try to provide more analyses of its figures in future, together with explan-ations of the data produced, developments and trends — but, for the next few years at least, there are no plans for the Statistical Office to become an economic policy centre. The OECD, by contrast, must answer questions on general economic policy posed by industrialized countries — and, indeed, a much wider circle of operators. We have much in common with these people. It is our job to find common ground, to be most competitive where we have a comparative advantage (production of figures and their analysis in the field in which we are working) and to join the OECD in drafting answers to questions of economic policy when we can provide added value. There is room for both these functions, I don't think the one should oust the other. Quite the contrary — It seems to be that both functions are seeking to coexist more peaceably.' (Yves Franchet, Director General of Eurostat).

LESSONS AND CONCLUSIONS

Drawing on the experience of the NSIs

How can Eurostat draw on the experience of the NSIs in its dealings with the press?

Improving the joint dissemination of statistics

'In France, there is a marked increase in demand for international data and, for the moment, we are ill equipped to meet this. We have not hitherto had a very clear policy on disseminating international data, most of which are produced by other institutes. We will be forced to draw up a policy, and it would be a good idea to develop sound collaborative links between Eurostat, the other NSIs and ourselves. For the non-specialist press, Eurostat has never been well placed. It seems to me that it is really the role of the NSIs to find a way of meeting the information needs of the man in the street, via the specialized press if need be. When it comes to international data, however, Eurostat is better equipped, so there should be a natural division of work between us in accordance with the principle of subsidiarity. We will increasingly have to talk of how to improve the joint dissemination of statistics.' (Paul Champsaur, Director General of INSEE, France).

Joint publications

'Much of the problem we will have to overcome if we are to harmonize our figures stems from the fact that each of our countries not only uses different definitions and concepts, but presents figures in very different ways too...Even if we forward our data to Eurostat electronically, they will arrive in different formats, and we can well

imagine the immense problems Eurostat statisticians must have trying to harmonize these. It seems to me that we should start thinking about a number of joint publications, which we could produce together!' (Bill McLennan, Director of CSO, UK).

And the network effect?

'Could Eurostat not act as a clearing house, pointing users and journalists looking for specific information in the right direction? Eurostat would be a sort of point of reference, telling people immediately where to find what they were looking for or who to contact...For journalists, the question is often crucial and urgent: who can tell me this or that, right away? This is what we need. This would greatly improve relations with all departments, both in Eurostat and in the NSIs...This would be the network effect that we are so keen to see!' (David Blake, *The European*).

Final thoughts

It was certainly worthwhile having this discussion, which remains largely open. 'A few final thoughts:

- It is important for us to start talking about disseminating data between ourselves. We would also like the press to continue telling us in no uncertain terms about the problems involved in obtaining the data we disseminate, so that, by adopting a joint approach and using Community statistics, we can present the public with things it needs and is interested in.
- We are, it is true, in a non-federal system: we are entirely dependent on national contributions, without which we can pass nothing on to the press. A joint effort must be made, not in the absolute sense, but statistic by statistic: how, when and in what form should we present a price index, an unemployment rate, quarterly accounts, that can be understood by all our readers and users in each country, at both European level and beyond? It is against this background that we must solve the problem of whether or not to use estimates.
- We should jointly publish a number of systematic indicators for the EC, the EEA, the United States and Japan. These would be up-to-date, wide-ranging and pre-publicized. Emphasis should be put on the systematic nature of these indicators rather than their number: three or four economic indicators, two or three social indicators and one or more on the environment. This would provide a good initial set of systematic indicators.
- We must strive to tell the press short, simple, human interest stories that are also suitable for the popular press. Even if they were just superficially interested, many readers would then be prompted to look further into the subject and seek more detailed information.
- We should set up a network of correspondents that highlights the living side of statistics and the human face of statisticians. Should this network include both Community and national interests, playing the clearing house role that some people have suggested? This seems ambitious, though the idea might be worth exploring, particularly in connection with the development of trans-European information networks...
- We should analyse our data and publish the findings! Such analyses, even if brief, are indispensable for throwing light on the figures, graphs and tables we publish, and they make them easier to understand.
- As for the price we should charge the press for the information we provide it with, I would be more in favour of free access to the maximum number of users. The current problem with European statistics is how to broaden dissemination and increase press coverage. It seems to me that free access should be seen as an extremely useful investment from this point of view.' (Yves Franchet, Director General of Eurostat).

Our duty as official statisiticans...

'Let us not forget that we are statisticians both for our governments and our citizens. But as statistical offices cannot go straight to the man in the street, there is only one option open to us — via the press! The statistical infrastructure is both necessary and useful in a democratic society, and our duty as official statisticians is to find out how the media work and make full use of them. This conference has been of great value from this point of view.' (Hans E. Zeuthen, Director of Danmarks Statistik).

The most profound of media

This debate also applies to — and will doubtless extend to — media other than the press. But statistics, even the electronic variety, call for precision communication, the craftsman's touch! And the press will probably always be one of the leading forms of communication, as writing is subject to constraints that other means of expression are not! As the French television journalist Christine Ockrent once said, 'Of all the media, writing is the most profound. The constraints intrinsic to writing make it the most difficult and the most comprehensive of exercises.' We would certainly not argue with that...

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[1] European Economic Area.

[2] This article is composed largely of free renderings of remarks made during the debate. They are subject to the usual journalistic provisos. Individuals whose names appear in the text are invited to comment on this article and contribute to other discussions of these topics. They should write to or fax to the editor of Sigma: Eurostat, Unit A2, L- 2920 Luxembourg, Fax: (352) 4301 32 594

[3] Communication on the evolution of the European statistical system, OJ 92/C 47/03.

[4] Guy Duplat, editor of *Le Soir*, editorial from the special supplement "Qui possède le pouvoir?" (Who holds power?), February 1994.

[5] Note from Mr Henning Christophersen to Mr Delors, 2 August 1993.

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