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ABSTRACT

Since it was founded in 1952, the International Council of Scientific Unions Abstracting Board (ICSU AB) has convened at least once a year, a general assembly or full board meeting held in different cities in the world. This is the first publication of the proceedings of the meeting. It not only includes reports on the activities of the Board, its committees and working groups, but also progress reports from members and from specially invited observers. Session I describes the activities of the ICSU AB. Session II covers the proposed program for future work of the ICSU AB. Session III gives reports from member services and member unions of the ICSU AB. Finally, session IV contains reports from associate members and observers. This comprehensive publication gives some insight on the many ICSU AB activities and of the new developments and services to meet the information needs of scientists and technologists. The review, summary and conclusions of the meeting are appended. (NH)

PROCEEDINGS OF THE FULL BOARD MEETING

JULY 1970

COLUMBUS, OHIO, U.S.A.

ICSU AB

1

E DES RÉSUMÉS ANALYTIQUES DU CONSEIL INTERNATIONAL DES UNIONS SCIENTIFIQUES
INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS ABSTRACTING BOARD

C O N T E N T S

CONTENTS PAGES

CONTENTS

PAGES

F O R E W O R D

The ICSU Abstracting Board was founded in 1952. Since then it has convened at least once a year, a General Assembly or Full Board Meeting held in different cities in the world, often at the invitation of one of its members. Among the places at which meetings have been held are Goslar, London, Moscow, Paris, Philadelphia, Rome and Stockholm. This year (1970) the meeting was held in Columbus, Ohio, at the invitation of the Chemical Abstracts Service.

This year for the first time, following requests from many of the participants, these Proceedings of the Meeting are being published. The Proceedings include not only reports on the activities of the Board, its Committees and Working Groups, but also progress reports from Members and from specially invited observers. This comprehensive publication will give some insight on the many activities of the ICSU AB and of the new developments and services to meet the information needs of scientists and technologists.

In identifying the speakers at the various sessions, the speakers designation has in general been limited to his association with that particular topic and his special qualification for presenting that material.

S E S S I O N 1 :

ACTIVITIES OF THE ICSU AB

Chairman : B. RIEGEL

1.1. INTRODUCTORY REMARKS

by Byron RIEGEL
President, ICSU AB

Before discussing specifically the activities of the ICSU Abstracting Board, I would like to take the time to make a few general comments about the problems of handling scientific and technical information on an international basis.

The first problem that I would like to talk about is the conflict between nations. National interests in many cases have overridden the common good. We scientists and engineers have to serve more than one god. Cooperation among nations is slow and ponderous. We have discovered this in trying to work with government organizations. It is much easier for a scientist or technologist to work with each other as individuals and cooperate on an international scale as individuals. That is probably what lead to the organization of the International Scientific Unions. It is absolutely necessary for all of us to be loyal to our own country just as it is to be loyal to our own families. The big problem is to build bridges

between nations that permits the free flow of scientific and technical information. Fortunately, much of our cooperation is to the advantage of all concerned and national priorities have not had an overridding influence. It has been pointed out many times that our personal acquaintances and working together as individuals is probably more important than anything else that we do. When we have problems and know the person with whom we can discuss it in any country, it greatly accelerates good communications. We must be realistic. National barriers are with us. We are forced to recognize them and work out systems that are compatible between nations.

The second important problem to me, is the [illegible] necessity for cooperation within a nation. There are four groups within any one nation that need to cooperate if they are to have a viable scientific and technical information system. I am referring to the national government, learned societies, educational institutions including the research libraries, and finally the for profit organizations that deal in scientific and technical literature. In many countries the for profit organizations have established outstanding records that are the envy of the not-for-profit organizations. Some commercial groups are philanthropic and interested in providing each user with the type of information he wants. I have also been impressed at the conflicts between learned societies as to who should be the "top dog" in handling scientific and technical information. There are now strong social, scientific, political, and economic pressures encouraging all of these groups within a nation to cooperate.

The third large problem is the education of scientists to use the new modern methods for handling their literature problems. Apparently, it is not difficult to teach this to

graduate students. It is us older scientists and technologists that find it more difficult to change our literature habits to the computer world. We also note the growth of a new breed of specialists known as literature scientists. These individuals are truly "middle men" in scientific and technical literature. They must deal directly with the user and find out exactly what kind of information he wants. They are then in a position to write a query for the computer. When they receive the machine answer, it is again necessary for them to translate the answer into terms that the user will understand. Many universities and colleges are starting to teach courses on modern methods for handling scientific and technical literature. This, of course, extends to the research libraries, particularly if they are to be the repository for all documents. The education of scientists and engineers about these newer methods is a major problem.

The fourth and last problem among the general problems I would like to discuss briefly is that of long range financial support for information services. This cannot be left to the whims of politicians. Methods must be found so that we can store the world's knowledge and maintain it over a long period of time and then be able to retrieve information from this bank of knowledge for as long as it is useful. The mechanical manipulation of scientific and technical knowledge has added completely new dimensions to these services. The computer is able to make correlations that were almost impossible to do in the past. The machine manipulation of information can also give statistical information of great value. The retrieval of information from our storage banks is, as a rule, much more accurate and complete, also faster. However, it costs large sums of money to build up these storehouses of scientific and technical information and this cost will have

to be passed on to the public. It should also be mentioned that the retrieval of information can be much faster but again speed costs money. It will be necessary for us to educate the public on these new dimensions of cost. We must discard many of our old and laborious methods for the new and modern machines. There is a big price tag on this modernization. We will have to find some way to provide the public with information about the cost/effectiveness to justify long range financial support at several times the old subsidies.

We have just printed a brochure that outlines our present activities. I will assume that each of you have had or will have an opportunity to read this pamphlet. Since it covers the activities of the Board you do not have to listen to my talk. Just read what I should have said.

Now may I turn to the problems of ICSU AB. The first and most important problem is that of standardization. What do I mean by standardization ? If we wish to exchange information with each other, we will simply have to agree on the rules of the road. Some of us cannot drive on the left side, or some on the right side, and some people down the middle. We will have to agree on using compatible systems that will allow each of us to use the others. This goes for everything we do from the bibliographic citation to the standard abstract.

The second most important problem for ICSU AB is that of language. It is my impression that we Americans are so terribly provincial in linguistic ability that we have practically forced on an unsuspecting world, broken English. Perhaps we should consider it the universal computer language, such as Fortran. This in no way releaves the responsibility of having good, accurate, up-to-date translating facilities.

We should strive to furnish every scientist and technologist in the world, his literature in the language of his choice. I am personally convinced that jet air travel is going to force all of us to learn each other's language.

The third big problem is how we should handle our primary literature. I have spoken about standardization and this requires international agreements among editors. Since there are at least 35,000 journals that we must cover, it will require a tremendous amount of work to get these editors to use standardized formats. Fortunately, we do have societies of editors and perhaps we can work through them as we have in the past. There are so many problems with primary literature that I will avoid discussing it further because Dr. Sorokin, our Vice-President, has provided us with an excellent analysis in this area.

The last mix that I would like to talk about is that of disciplines. It is hard enough to get one discipline to use compatible systems. Now to convince several disciplines that they should cooperate among each other is an even greater problem particularly if you want to mix in the world's language problems at the same time.

In conclusion the world's scientific and technical information services have many important problems before them. The odd thing about it all is, I am highly optimistic that we will be able to solve many of them. This is due to the wonderful cooperative spirit that seems to naturally permeate the desires of scientists and engineers from every country.

1.2. REPORT OF THE PLANNING AND STEERING COMMITTEE

presented by R.J. SMITH
Chairman, ICSU AB Planning and Steering Committee.

The role of the Planning and Steering Committee of the ICSU AB is :

- to forecast the development of the Board and its technical activities, and to establish its programme of work.

- to insure that this programme is properly carried out by the various Committees and Working Groups.

The Planning and Steering Committee reports to the Executive Committee, which in turn reports to the Full Board and the General Assembly.

The present report deals neither with the forecast of the technical activities of the Board, nor with the work of its Working Groups or Committees. These aspects will be reported later on, during the remaining part of Session 1 and during Session 2.

This report deals with the forecasts of development of the Board, which are presented here in the form of resolutions. The substance of these resolutions has been prepared by the Planning and Steering Committee, submitted for the comments and approval of the Executive Committee and then to the Full Board.

They are presented here as amended by these two bodies and as approved by the Full Board during its july 20th, 1970 meeting.

I - FUTURE OF THE BOARD

The Planning and Steering Committee considered the future of the Board in a number of respects and, in particular, took account of the size of the Board and reviewed the optimal level of the organization which could operate most efficiently. This led it to make several recommendations to the Full Board, which are reported below :

- World Federation of Engineering Organisations (WFEO)

Resolution 3 of the Full Board :

The Board resolved to adopt the Recommendations of the Planning and Steering Committee as endorsed by the Executive Committee with regard to WFEO, as follows :

1. - WFEO should enter into the structure of the Board as an equivalent of ICSU.

2. - The engineering abstracting and information services should apply for membership in the same way and, if accepted, should have the same status as the present member services.

3. - No provision should be made for the representation of subject fields within engineering until there are international organizations similar to the Scientific Unions covering such fields.

4. - ICSU and WFEO should each have two representatives on the Board.

5. - ICSU and WFEO should each have one seat on the Executive Committee.

6. - ICSU and WFEO should each contribute to the finances of the Board.

- Member Services

Consideration was given to the place of mission oriented services and to the criteria of language and/or region as membership qualifications.

Resolution 4 of the Full Board :

Having considered the Recommendations of the Planning and Steering Committee with regard to Member Services, as endorsed by the Executive Committee, the Board resolved that these be referred back to the Planning and Steering Committee for further consideration.

The Full Board meeting agreed that the ICSU AB should aim at becoming truly representative of all large not for profit Abstracting and Indexing Services (including mission oriented services) ; it was further agreed that agreement with the Board's policies and cooperation with its programmes are essential qualification for membership ; also, the present restriction on language and subject overlap should be eliminated, but the Board should pursue a policy of discouraging unnecessary duplication of services in the same language and subject field.

- National Members

The Planning and Steering Committee had given consideration to the desirability of establishing a class of National Member of the Abstracting Board. They had recognised that this type of Member has become the preferred mode of participation by countries in international non-governmental scientific organisations.

In proposing to establish a class of National Members, the Planning and Steering Committee had particularly in mind the contribution the Board could bring to such Members in working jointly towards solutions of their scientific and technical information problems. The Planning and Steering Committee also believes that National Members would contribute significantly to the ICSU AB important and ever increasing activities in the field of international cooperation.

There is always the possible hazard of the use of National Members to pursue political aims in non-governmental scientific organisations, although this does not seem to be a real problem, and suitable safeguards can be taken in defining this class of Member. Additionally, the established climate of ICSU-AB is so non-political that fears of significant change would not appear to be well-founded.

In several advanced countries "National Committees" are created in support of National Members. Their functions are :

1. - To serve as a funnel for ideas and proposals to be submitted to the international body.
2. - To help to refine proposals before submission.
3. - To respond to proposals submitted to the international body by other Members.
4. - To act as a communication link between the international body and professional societies and interested individuals in the country concerned.
5. - To advise its Government regarding programmes as well as allocation of financial support to international bodies.
6. - By overlapping membership, to coordinate participation in related international bodies.
7. - To perform a public relations function in its country for the international body concerned.

In making recommendations relating to a class of National Member, the Planning and Steering Committee felt that the formation of National Committees, while not mandatory, should be urged as a natural corollary of National Membership.

Resolution 5 of the Full Board :

The Board resolved to adopt the Recommendations of the Planning and Steering Committee as amended by the Executive Committee with regard to a class of National Members, as follows :

1. - That a class of National Member be established. Each country should be entitled to one National Member only. The National Member would adhere to the Abstracting Board through an institution such as the principal scientific academy, or a national research council, or association of institutions which broadly represents the country's scientific information interests.

2. - That Member dues shall be created at three levels :

Level 1 - $ 2,500
Level 2 - $ 5,000
Level 3 - $ 10,000

When applying for membership, a prospective National Member will indicate the level at which they propose to subscribe. The Executive Committee of the Abstracting Board would expect this to be a level appropriate to the scientific information interests of that country.

3. - That those elected as National Members should be urged to establish National Committee with functions not incompatible with those described above.

4. - That each National Member should, in common with all other Members of the Abstracting Board, have one vote.

5. - That National Members should be represented on the Executive Committee of the Board by two members to be elected from among their number by the full Abstracting Board.

II - NAME OF THE BOARD

The Planning and Steering Committee recalled that, in recent years, a number of suggestions for a change of title of the Board had been considered to take account of the recent developments and better to reflect the type of activity in which Members of the Board were involved. A number of suggestions were considered and submitted to the Board.

Resolution 6 of the Full Board :

The Board considered the Recommendations of the Planning and Steering Committee with regard to the name of the Board, as amended by the Executive Committee and resolved :

1. - That the name of the Board should be changed, as a consequence of Resolution 3. - and Resolution 5. - above.
2. - That, subject to further review by the Planning and Steering Committee and to confirmation at the 1971 General Assembly, the name of the Board should be International Federation of Information Services (INFIS).
3. - That whatever decision is taken on the new name by the 1971 General Assembly, "ICSU", "WFEO" and "Formerly ICSU AB" will appear in the heading of all publications, documents and correspondence.

III - STATUTES AND BY LAWS

Resolution 7 of the Full Board :

The Board resolved to adopt the Recommendation of the Planning and Steering Committee as endorsed by the Executive Committee as follows :

1. - That to take account of changes agreed in Resolution 3 and Resolution 5. - the composition of the Executive Committee be changed to :

1 WFEO representative
1 ICSU representative
2 National Member representatives
3 Member Unions representatives
4 Member Services representatives

2. - That because of the difficulty of meeting the requirement under Belgium law which demands that one member of the Board and the Executive Committee must be a Belgian, other possibilities of incorporation free from this requirement should be explored.

Resolution 8 of the Full Board

The Board resolved unanimously to instruct its Committee on Statutes and By-Laws to give effect to the Resolutions taken by the Board and to present the revised version of Statutes and By-Laws for adoption at the 1971 General Assembly following which they will become immediately effective.

IV - MEMBERSHIP APPLICATIONS

Resolution 10 of the Full Board

The Board resolved unanimously to approve an application from Science Abstracts for an extension of their membership to cover their activities in the fields of Technology and to approve applications from Referativnyi Zhurnal and Bulletin Signalétique for an extension of their membership to cover their activities in the fields of Technology and of Mathematics.

CONCLUSION

The Board strongly believes that these extremely important decisions it has taken are an essential step towards better international cooperation in the Scientific and Technical information field and will be of benefit not only to its members but to the whole Scientific and Technical community and particularly to users.

1.3 REPORTS OF THE SPECIALIZED WORKING GROUPS AND COMMITTEES

1.3.1. INTRODUCTORY REMARKS

by J. POYEN
General Secretary, ICSU AB

In the precedent paper, J.R. Smith has explained briefly the role of the Planning and Steering Committee of the Board.

Once this Committee has established the programme of activities of the Board, it proposes the creation of specialized Working Groups or Committees which are then in charge of the studies or actions which are necessary to carry out the programme.

The Working Groups or Committees are usually composed of ICSU AB members. However there are cases where experts from outside the ICSU AB are asked to participate in Working Groups when it is felt necessary.

There are about fifteen specialized Working Groups or Committees within the Board ; not all of them will report during this Session.

When looking at the very limited staff and financial resources of the Board, one may be surprised of the amount of work which it carries out successfully. The reason is very simple : Members of the Board, and in particular Member Services, put their resources (staff and expertise) at the disposal of the Board and of its various Committees and Working Groups at no charge to the Board.

For instance, in order to achieve some of the results which will be reported about by the Working Group in Physics more than one man year was spent by the various Member Services in Physics.

Similarily, the comparisons of the classification schemes were made free of charge by the experts of the Member Services staffs. It is estimated that this required between six and eighteen men month for each field, the difference coming from the difficulties which vary from one field to another.

We estimate that the fact that Member Services accept enthusiastically to put at the free disposal of the Board such considerable staff and expertise resources, which figured out in terms of money would represent a very large budget, is the best proof one may have of their interest for the activities of the Board and of their willingness to cooperate actively at the international level.

1.3.2. USERS' NEEDS

by J. GRAVESTEIJN, Member
ICSU AB Working Group on Users' Needs

The ICSU AB Working Group on Users'needs was created in 1968, and since then, has been working actively. The present paper does not reflect all the activities of the Working Group, but some of its main conclusions.

Under a UNESCO Contract, ICSU AB were to attempt a comparative evaluation of Users' Needs Studies already undertaken in different countries and in different languages. An examination of those Users' Studies which were available made it apparent that this task was not possible because these had usually tried to cover too wide a spectrum of users and that each had been designed for the purposes of the organisation concerned. It was found that these studies were neither measurable nor comparable.

It was therefore decided to attempt to find a unified methodology applicable to studies of Users' Needs for :

(a) determining categories of users

(b) determining needs, habits and requirements of users

(c) evaluation criteria and techniques for comparing the obtained results

(d) a system of co-ordination at the national and international level.

It was decided that the best way to achieve this would be to establish a form of questionnaire which could be used by all interested organisations, without modification, in such a manner that the result could be compared, using a computer. It was recognised that this necessarily meant that the scope of the questionnaire would be limited, but that it would be possible for any organisation issuing the questionnaire to add supplementary questions specific to its own purpose.

A - THE METHODOLOGY ADOPTED FOR THE DESIGN OF THE QUESTIONNAIRE was as follows :

1 : Categories of Users :

1.1. : The first consideration appeared to be to establish a broad field of interest which, for the purposes of the questionnaire, could be considered as :

(a) basic science
(b) applied science, including project-oriented research
(c) technology

Having determined the field of interest, as defined above, it would be appropriate to have an indication of the discipline within which the user's work primarily fell. It would be necessary to determine a list of disciplines in science and technology.

1.2. : The next important question was to establish a degree of specialisation and responsibility, and it was agreed that the following categories should be established :

Science - Administration and Management
Research
Teaching
Technology - Administration and Management
Research and Development
Design
Production
Teaching

1.3. : Consideration was given to a number of other questions which are customarily asked in questionnaires of this kind, e.g. questions about age, academic degrees, etc., but it was thought that these were not fundamental to the type of study under consideration. It was, however, thought to be important to have an indication of the languages which he used in his work.

2 : Needs, habits and requirements of users

It was agreed that the attention should be paid only to the needs of individual users and not to the needs of documentation centres, libraries, etc., and that "requirements" should be defined as needs which are not met by the user himself. A distinction should be drawn between general needs, in terms of current awareness or retrospective search services, and the specific needs of different categories of users. It was also important to distinguish between the needs of the user in his own field and his needs in fringe fields.

3 : Evaluation criteria and techniques and comparison of the obtained results

The main problem in the past had been the inability to compare results obtained from various surveys, and it was essential to establish methods which would ensure that all the results obtained were directly comparable. In particular :

(a) the quantity of users studies must in every case be statistically representative.

(b) the sampling methods used must be defined and, as far as possible, followed in every case.

(c) for the purpose of comparison, the questionnaires must be identical and sufficiently clear to be interpreted in the same way by all users.

(d) the results must be presented in machine-readable form so that broader analysis will be possible.

4 : Developing a system of co-ordination at the national and international level

4.1. : The main object would be to establish a method in which, irrespective of country, language, etc., the results could be compared.

4.2. : The practice of limiting surveys of this kind to known subscribers of secondary periodicals must be extended to include non-subscribers. This might best be done by using national lists or memberships of professional institutions.

4.3. : Co-ordination at national level could be the responsibility of the appropriate government department or through national associations of scientists and engineers.

4.4. : International co-ordination should be made through international associations of scientists and engineers.

5 : Questionnaire

All the considerations indicated the necessity of preparing a basic questionnaire, preferably designed so that

it could be used over a number of fields of interest and over all the scientific and technological disciplines. In order that the same questionnaire should be applied to these various categories, it would need to be simple. There is no reason why the services or others using the questionnaire should not amplify for their own purposes, but it was recognised that these additional questions would not necessarily be comparable.

B - DRAFT QUESTIONNAIRE

A first draft of a questionnaire was prepared taking account of the points mentioned in A. above. It was decided to test this questionnaire by inviting each Member Service of ICSU AB to distribute 15 copies to selected subscribers. This meant that 150 questionnaires would be involved in the pilot study.

The completed questionnaires were studied and it was found that the questions had been well understood by the users and that only small modifications were needed.

C - FINAL FORM

The questionnaire was then prepared in its final form by the Working Group.

D - DISTRIBUTION OF THE QUESTIONNAIRE

It was obvious that, taking account of the number of disciplines involved (74) and the number of countries which might be involved, any statistically meaningful sample would

be large. It was therefore decided to consult a statistician on questions of the size and structure of the sample and of the different kinds of tables which should be designed. It was also decided to seek estimates for key punching, programming and machine processing.

E - RESULTS AND TABLES TO BE OBTAINED

Before establishing the size of the sample, it was necessary to determine the design of the appropriate tables and the expected results. This was done by the Working Group, in cooperation with a statistician.

F - SIZE OF THE SAMPLE :

Number of answers needed

The number of answers needed so that the results be significant was estimated by a statistician to 40,000 taking into account the number of "elementary boxes" in the simple and crossed tables which we want to obtain.

Number of Questionnaires to disseminate

The normal ratio of answer for a survey of that kind is between 5 and 10 %. This means that some 600,000 Questionnaires will have to be distributed. The distribution will be made by country or region. In order to determine the number of Questionnaires to be sent in each country, it would have been necessary to know the approximate number of scientists and technicians in each country. Unfortunately, the estimates of such numbers which were given by the department of statistics of UNESCO are not accurate, and cannot be taken as a basis.

After discussion, it was agreed that the best approximate would be to take to population of the country, weighted by a factor indicating the scale of development of the country. After inquiry, it seems that the United Nations cannot give an indication for this factor. In the absence of valuable information, it is porposed to take the Gross National Product to weight the number of inhabitants.

The approximate number of Questionnaires to be processed by country would then be determined. Since the ratio number of Questionnaires received/number of Questionnaires sent (which may vary from one country to another) is not known it is proposed that the Questionnaires be sent on the basis of an expected ratio of return of 7.5 %. For countries where the ratio will be higher, a choice at random will be made among the answers received. For countries where it will be smaller, either another batch of Questionnaires will be distributed or the answers will be weighted according to the number of answers received versus the number of answers estimated as needed.

G - METHODOLOGY

The methodology was as follows :

- To translate the Questionnaire into French, German and Russian.
- In each country or region, to find an organisation to be responsible for the clerical work (selection, addresses, mailing of the Questionnaire, gathering of answers, etc.),

and also for the translation of the Questionnaire in languages other than English, French, German or Russian (if necessary).

- To reproduce and distribute the Questionnaire.
- To evaluate the answers and to process them with a computer.
- To write a report which would be internationally acceptable as a basis against which future Users' Needs Studies, if appropriately designed, could be rated.

H - RESULTS EXPECTED

- To obtain a statistically meaningful sample of responses to a Questionnaire broad in coverage and more comprehensive than any previously known questionnaires related to Users' Needs.
- To evaluate these responses and to produce a standard against which future Users' Needs Studies can be measured.
- To inform all those interested in information transfer in Science and Technology of the present state of Users' Needs as determined by the Questionnaire.
- To consider ways in which supplementary questionnaires associated with particular disciplines or classes of products could be designed to enable additional information to be integrated with the above results.

CONCLUSION

The Working Group had estimated that this survey would last about 15 months and cost approximately 60 000 dollars, being understood that UNESCO had proposed to print the questionnaire and distribute it to each country or region at no cost.

The ICSU AB is at present seeking funds to support this survey.

1.3.3. WORKING GROUP IN PHYSICS

by H.D. BARLOW
Chairman, ICSU AB Working Group in Physics.

In the Working Group in Physics, the Member Services that are represented include the English-language service Physics Abstracts, the French-language service Bulletin Signaletique, the German-language service Physikalische Berichte, and the Russian-language service Referativnyi Zhurnal. Also as a member of the Working Group is the representative from IUPAP, representing the user's interests.

The aims of the Working Group are :

1. To study whether exchanges of abstracts are possible.
2. To test whether co-operation can be achieved in covering fringe journals.
3. To study the ways various abstracts are generated by each service.
4. To compare classification systems.

A comprehensive programme of co-operation is already under way between the various services, and the details are given below :

a) - Co-operation between PA and BS - An initial experiment was reported at the last Full Board meeting, when some 1200 items had been provided by BS to PA in an attempt to see whether exchanges of abstracts were possible. This experiment will be continuing for a further 12 months, with certain modifications to make sure that it is more economical for both sides. In addition, from the list of journals covered by PA, BS will extract items only from those journals that are not taken by PA, and will despatch to PA the title page and abstract of any articles of interest that fall into the PA field or, if no abstract exists, the first three and last pages.

On fringe journals, an experiment is being conducted by these two organisations. Lists of fringe journals in the physics field, from which less than 10 items per year are abstracted by PA, have been sent to BS.

On the study of how various services prepare abstracts, the initial experiment to ascertain whether a valid comparison can be made is being performed between PA and BS. Lists of journals have been exchanged from which PA selected author-prepared abstracts together with a list of those from which PA prepares the abstracts themselves. From this list a total of some 100 abstracts will be generated which each service has published. The abstracts will then be compared for content and quality to see what differences occur.

b) - Co-operation between PA and PB - A similar exchange was organised last year on abstracts to that reported above. This experiment is continuing with PB providing English abstracts from some six journals. Altogether, 280 items have been sent and incorporated within PA.

A further 68 journals are being analysed for their productivity. Feedback will be provided by PA on the quality of the abstracts provided by PB.

c) - Co-operation between PA and RZ - Co-operation has recently been set up under a bilateral arrangement within the framework of an Anglo-Soviet technological agreement. Much of this work will spill over into the ICSU-AB area of co-operation. Typical of some of the arrangements that are being undertaken are :

(i) Study of classifications

(ii) Use of a test-bed and suite of programs developed by PA to check index and classifications.

(iii) Generation of a two-language subject index in the physics, electrotechnology and computer fields.

d) Comparison of Classifications - This is an ambitious programme under which classifications used by various Member Services are compared. The aim is to converge towards a single unified system. At the last Full Board Meeting the results of such a comparison were given. Now with the co-operation of the USSR, which has provided their latest classifications used by them, this comparison is being updated.

e) - Lists of journals covering the physics field are being collated for each of the services. This will provide a unified list of journals and it is hoped that associated with each journal it will be possible to give a productivity figure, i.e. how many items of note were contained in each issue and how many of these were extracted by each service. This data will be invaluable in future planning and co-operative arrangements for sharing input facilities.

In all, it is an ambitious programme, and a deep expression of gratitude must be presented to the fellow committee members who give so much of their time in pursuing with me the aims and objects of the Working Group. We feel confident that we can make a real contribution to unification in the physics field.

1.3.4. WORKING GROUPS ON CLASSIFICATIONS

by Ch. WEISKE
Chairman, ICSU AB Working Group on
Chemical Classification Schemes.

Classification schemes are used by Abstracting and Indexing Services to arrange the abstracts within the printed issues of the abstracting journals, in order to help users to find out easily the information they need.

The concepts of the schemes may also in some cases be used as search terms in computer based information retrieval systems.

It happened that the various Abstracting and Indexing Services have developed their own classification schemes which reflect their understanding of the fields they cover and that consequently these schemes vary from one service to another, even within a same discipline.

Such a situation makes it very difficult to determine the similarities and differences, and to identify gaps and overlaps in subject coverage.

In 1968, the ICSU AB decided to undertake a comparison of the classification schemes used by its Member Services. It was decided that in a first stage, this comparison would be made field by field, and that interdisciplinary problems would be dealt with in a second stage.

It was also decided to include UDC in these comparisons.

The programme of work was established as follows :

A - In each field

- To compare classifications schemes used by ICSU AB Member Services, as well as UDC.
- Through this comparison to determine similarities and differences and to identify gaps and overlaps in subject coverage.
- To prepare basic classification schemes which would be agreed upon by all Member Services of the Board.

These basic classification schemes would then be used by the Member Services, as follows :

- either to replace their own schemes; this policy should be followed each time it is possible,
- or, if some Member Services found impossible to adopt the basic scheme for their own use, they should at least publish "equivalence tables" from the basic scheme to their own, and vice-versa.

B - Interdisciplinary problems will be dealt with in the same way, taking into account basic schemes established for each field.

This programme was started in 1968, and the present situation is as follows :

In Physics

The classifications used by Physics Abstracts Physikalische Berichte, Bulletin Signalétique, as well as the one used in 1969 by Referativnyi Zhurnal have been compared. This has been done by experts in Physics Abstracts.

The new Referativnyi Zhurnal scheme, as well as the one recently published by American Institute of Physics are now included in the comparison, which will be ready by the 1st of January 1971. The first draft of the basic scheme will be ready by April 1st, 1971. It will then be discussed, amended, and it is hoped that the final version will be ready by the fall of 1971.

Member Services in Physics have all indicated their willingness to use the basic scheme in place of their own.

In Biology

A first comparison of the classifications used by Referativnyi Zhurnal, Biological Abstracts and Bulletin Signalétique has been made. Great differences have been found between this various schemes, which make it necessary to undertake a more in depth comparison.

This comparison is still going on.

In chemistry

The work in this field was done by Chemical Abstracts at the beginning, and is now under the responsability of hemischer Informationsdienst.

A first draft of the comparison between Chemical Abstracts, Bulletin Signalétique, Referativnyi Zhurnal and Chemischer Informationsdienst was established in 1969 and sent to Member Services for comments. A second draft was then prepared, a new section "analysis of overlap in the coverage", was included.

This second draft is now in the process of discussion.

In Astronomy

Bulletin Signalétique is responsible for the work in this field.

A comparative study of the classifications used by Astronomy and Astrophysics Abstracts, Bulletin Signalétique and Referativnyi Zhurnal was made in 1969. The new classifications schemes used by the two latter services have been included in the comparison in 1970.

Work is in progress for the preparation of the basic scheme, which is expected to be ready in 1971.

Member Services in Astronomy have indicated their willingness to use the basic scheme in place of their own.

In geology

This work was placed under the responsability of Bibliographie des Sciences de la Terre.

The comparison was finished in 1969. But the meetings of the Working Group in Geology had to be postponed because of financial reasons.

It is hoped that the common classification scheme will be ready in the course of 1971.

1.3.5. COMMITTEE ON PRIMARY PUBLICATIONS

by Ch. WEISKE
Chairman, ICSU AB Committee on Primary Publications.

It is the ICSU AB feeling that it cannot properly achieve its goals without developing closer relationships between Editors of Primary Publications which publish the source material processed by Abstracting and Indexing Services and these secondary services.

The ICSU AB Committee on Primary Publications was established by the ICSU AB in September 1969.

The terms of reference of this Committee are :

- to establish cooperation between Abstracting and Indexing Services members of the ICSU AB, and editors of primary publications. To achieve this, the Committee should study all aspects of this cooperation, and develop a programme of action.

- to recognize existing Associations or Groups of Editors of Primary Publications as a proper chanel, for cooperation.

As all other ICSU AB Committees and Working Groups, the Committee on Primary Publications is composed of ICSU AB Members. Two of its members happen to have close relationships with primary publications ; they are Prof. A.J.C. Wilson, Editor of Acta Crystallographica, and Dr H. William Koch, Director, American Institute of Physics, and their experience is of particular value to the work of the Committee.

The Committee met for the first time in May 1970 in Paris, and devoted its first meeting to a review of all possible fields of cooperation between primary and secondary publications, and to very preliminary considerations for the preparation of a guide which would outline the major aspects of this cooperation, and suggest possible ways of achieving it.

It was found that no action can be started by the ICSU AB without having previously discussed this problem of cooperation with Editors of Primary Publications.

Towards this end, it was decided that at the 1971 General Assembly of the ICSU AB a special session will be devoted to discussions between the Board and Associations of Editors of Primary Publications. For this purpose, these Associations will be invited to send representatives to this meeting and to present their views.

In the meantime, the Committee on Primary Publications will concentrate its efforts to review past and present experience of ICSU AB Member Services in cooperation with primary publications, and to prepare the 1971 meeting.

1.3.6. UNISIST/ICSU AB WORKING GROUP ON BIBLIOGRAPHIC DESCRIPTIONS

1.3.6. PART I :

THE UNISIST/ICSU AB WORKING GROUP ON BIBLIOGRAPHIC DESCRIPTIONS

by J.L. WOOD, Member
UNISIST/ICSU AB Working Group on
Bibliographic Descriptions,
Director, Bibliographic Support Division,
Chemical Abstracts Service.

The UNISIST/ICSU-AB Working Group on Bibliographic Descriptions was organized by the Central Committee of the Joint ICSU/UNESCO project on the communication of scientific information and ICSU-AB during the summer of 1968. Prior to this time each of these organizations had its own group working in the area of bibliograhpic data. The Central Committee had a Working Group on the Transferability of Bibliographic Data. The ICSU-AB had a Working Group dealing with internationally acceptable abstracting forms and procedures. So, the very first benefit to all of us was the relation in the number of Working Group's from two to one. I hope we realize other benefits.

The joint UNISIST/ICSU-AB Working Group, which I will refer to from now on as the Working Group, first met in December 1968 at UNESCO House in Paris. Since that December 1968 meeting, we have had four additional meetings and a sixth meeting is presently scheduled for October of this year.

I will not touch upon every detail of the Working Group's activities, but I will review the Working Group's :

- . change from UNISIST and ICSU-AB
- . how we set about to accomplish our objectives
- . what we have actually accomplished
- . what remains to be done and
- . how our work may effect future information transfer activities in the field of science and technology.

First, for the Working Group Charge

UNISIST, as you know, was initiated a feasibility study. At its first meeting in 1967, the UNISIST Central Committee decided to establish a series of Working Groups. One of these was to study tractable problems associated with standards for transfer on the basis of bibliographic data. The Working Groups charge read :

> The standards should permit rapid communication of basic bibliographic information between various sub-systems in the world, and a plan should be put forward for a set of codes which would be consistent throughout the world but which would allow substantial scope for amplification at the sub-system level, e.g., national systems or international secondary services in particular disciplines.
>
> The proposals should be flexible and should allow, if and when necessary, for extension to include technological information and, in the first instance, should provide a framework which could be steadily developed as the problems of interface connections become resolved.

The Central Committee's 1967 charge to the original ICSU/UNESCO Working Group was not significantly altered by the merging of its original Working Group with the ICSU-AB Working Group on Internationally Acceptable Forms and Procedures. From the second meeting of the Central Committee, the following scope statement for the Joint Working Group emanated :

1. To agree upon the elements involved in bibliographic references.
2. To agree upon the structure and the arrangement of these elements.
3. To agree upon a precise form to ensure their efficient and accurate conversion into machine-readable form.

The charge went on to read, "In defining these standards the first objective of the Working Group is to provide full interchangeability of bibliographic descriptions between ICSU-AB member services".

To adequately respond to the responsibilities assigned by UNISIST and ICSU-AB, the Working Group set about to develop a set of recommendations that, if followed by the ICSU-AB member services, could lead to this interchangeability of bibliographic descriptions.

The magnitude of the task that lay ahead of the Working Group came into sharper focus as we began to examine the form and the content of the bibliographic descriptions prepared by the ICSU-AB member services and to discuss among ourselves the approach required to reconcile the apparent differences in editorial practices.

First, we realized that our recommendations would need to encompass bibliographic descriptions for both periodical and non-periodical forms of literature. Further, we would need to take into account different levels of bibliographic descriptions. For example, a description of an article contained in a journal as well as a description for a publication entoto such as book, or a technical report.

Second, we would need to identify for each type periodical or non periodical literature the range of data elements we considered to be essential for the identification of the document being cited as well as additional data elements carried in bibliographic descriptions, to increase their content value, such as the language in which the original document is published, a number of references, the number of illustrations, plates, maps, and etc.

In our work, we identified seven types or forms of literature being processed by the ICSU-AB member services. These seven types are periodicals, books, conference proceedings, dissertations, maps, patent specifications, and technical reports. For each of the data elements we identified as essential or supplementary to bibliographic descriptions for each of these seven types of literature, we realized it would be necessary for us to provide rules for their representation. For example, rules for recording author names and author affiliations.

Third, we knew that we would need to provide recommendations covering those characteristics common to more than one data element, such as the transliteration of non-roman alphabet characters, or the transcription of modified roman alphabet characters.

And finally, we would need to provide recommendations covering the characteristics associated with bibliographic descriptions in machine-readable form ; for example, character sets, data element tags, and the format of machine-readable record.

Because of an estimated 80-90 % of the bibliographic descriptions generated by the ICSU-AB member services are to articles that have appeared in the periodical literature, the Working Group decided to initially concentrate its efforts on periodicals. In doing so, we would, in fact, be simultaneously providing recommendations covering many of the data elements and other characteristics required for bibliographic descriptions for the non-periodical literature.

In our review of the data elements contained in the bibliographic descriptions for the periodical literature, the Working Group identified as being essential :

- a code and an abbreviation for the periodical title
- the title of the contribution or paper
- the author's names, both personal and corporate
- the author's affiliations
- volume number, issue number, and complete pagination data
- language of the text and the language of the summary
- the number of references

The supplementary data elements included tables, maps, plates, illustrations, charts, graphs, etc.

To advance our work we adopted the ICSU-AB methodology of breaking the assignment into a series of identifiable problems. Each problem was then assigned to a Task Group chaired by a member of the Working Group. Task Group chairmen were, in turn, able to call upon the expertise available to them within their own organizations, thereby broadening the base of the contributions being made to the Working Group's overall effort.

Task Groups within the Working Group were established to prepare recommendations for :

1. Transliteration and transcription schemes
2. Periodical title abbreviations
3. Titles of original contributions or papers
4. Author names and author affiliations
5. Data elements required to identify an issue of a periodical and a paper within an issue
6. Supplementary or non-essential data elements for inclusion in bibliographic descriptions.
7. Character sets, data element sorting order, data element tagging, and machine-record format
8. Other codes and symbols

Time will not permit a detailed report on the full range of activities of each of these Task Groups. I will only mention some actual accomplishments.

Task Group 1, with the assistance of VINITI, the Bulgarian National Library, UNESCO, and several ICSU-AB member services, has provided a recommended transliteration system

for Slavic Cyrillic characters. The Task Group based its recommendations on the 1969 ISO Recommendation for an International System for the Transliteration of Slavic Cyrillic Characters. However, the Task Group's recommended scheme permits the omission of all diacritical marks. This Task Group has also developed the transcription schedule for modified letters that appear in the Danish, Dutch, Finnish, German, Icelandic, Norwegian and Swedish alphabets. It is currently in the process of identifying other languages of interest to ICSU-AB member services for which transliteration or transcription is required so that bibliographic descriptions for documents that appear in these languages can be prepared utilizing only the 26 basic roman alphabet characters.

To represent the titles of periodicals in which original contributions are contained, the Working Group decided that first traditional periodical title abbreviations would need to be standardized, and secondly, that a concise, unambiguous machine-readable code would be required to represent the periodical titles in machine-readable files. Since Mr. David Martin will be discussing the periodical title code aspects of our work, I will only comment on the traditional periodical title abbreviation.

The Working Group agreed to base its recommendation for abbreviating periodical titles on the recent British and American standards and to accept the 1967 ICSU-AB Resolution that its member services adopt the periodical title word abbreviation published by the National Clearinghouse for Periodical Title Word Abbreviations. This Clearinghouse is currently sponsored by Standards Committee Z39 of the American National Standards Institute. The work of the Clearinghouse is funded by the National Science Foundation and the Council on Library Resources and it is operated for Z39 by the Chemical Abstracts Service.

The ICSU-AB Resolution, which I just mentioned, did, however, contain one important provision. Adoption by ICSU-AB member services was contingent upon their being able to recommend both changes in and additions to the Clearinghouse Word Abbreviations for words in the member services' native languages. ICSU-AB member services representing the English, French, German and Russian language groups reviewed the Clearinghouse list and provided the Task Group with recommendations for additions and changes. The Chemical Abstracts Service, under contract from the International Council of Scientific Unions, furnished editorial staff to prepare from the American Clearinghouse List an International List of Periodical Title Word Abbreviations. I am very pleased to announce today that the first phase of this work has now been completed. Copies of this International List will soon be made available to participants in the UNISIST program (and I assume others) from the International Council of Scientific Unions. However, two important phases of this work remain to be done. First, the adoption of the International List by national standard bodies.

Second, the internationalization of the National Clearinghouse in order to provide a mechanism for updating the International List and publishing subsequent editions.

A third Task Group was established to review editorial practices of ICSU-AB member services that pertain to the presentation of titles of papers published in the periodical literature. Although this study disclosed a wide range of editorial practices, for the most part, these were found to be fully justified when one considers the number of different languages encountered in the primary publications handled by each of these services and the necessity of each service to provide bibliographic descriptions in a single language

acceptable to their subscribers. On the basis of these findings, the Working Group decided it would not be practical to recommend that all secondary services publish all of their bibliographic descriptions in any single language. It was, therefore, decided to recommend that the tagging scheme used to identify contribution titles in machine-readable form be expanded to include indicators that would specify whether the title was being carried in the same language and characters as it had appeared in the original or if the title had been transliterated, translated, enriched, shortened, or in some other way, modified.

The fourth Task Group was assigned the responsibility for preparing recommendations covering the representation of author names and author affiliations in bibliographic descriptions. Again, the editorial practices of the ICSU-AB member services were reviewed. Upon completion of this review and after several meetings, the Task Group submitted its proposed recommendations for citing names of individual authors, corporate authors, and author affiliations in machine-readable bibliographic descriptions. These recommendations define conventions for entering names and affiliations in machine-readable record in such a way as to insure that any user of machine file can manipulate and display the information he requires. These recommendations also provide a technique of sub-field flagging which will facilitate generation of author name indexes and author name cross references.

Another task force was established to develop a set of recommendations for a common practice on the definition and application of data elements which are needed to identify an issue of a serial. These data elements included the volume number, issue number, consecutive issue number, date of issue, and pagination. The Task Group recommended that each of these data elements be regarded as a field and proposed that a

sub-field structure be introduced so that any of the data elements could include a sub-field which represents a part of subdivision of the main data element.

In addition, this Task Group drafted a working paper directed toward the development of a document identification code. As envisioned by the Task Group, such document identification code would consist of the code for periodical title plus other data derived from the document itself. This other data could be the volume number, issue number, initial page number, and page fraction to cover instances when more than one article begins on a page, or it could be the date of issue, page number, and the page fraction. Final decisions on the precise format on the document identification code are subject to the outcome of proposed testing on existing data bases. It is the belief of the Working Group that this document identification code will play an important role in the future interchange of machine-readable bibliographic descriptions and that it will provide a common link between the different machine-readable data bases being developed by the ICSU-AB member services as well as other organizations.

A sixth Working Group was assigned the task of identifying the full range of supplementary or non-essential data elements used in the bibliographic descriptions published by the ICSU-AB member services. Work done to date at CNRS, in Paris, has identified over 100 such supplementary data elements. Members of this Task Group are meeting here in Columbus this week to refine this list and to prepare proposed recommendations for consideration by the Working Group when it meets later this year.

Our work in the area developing recommendations for character sets, data element sort order, tagging schemes, and tape formats were somewhat delayed by the necessity to reorganize that Task Group. The reconstituted Task Group, however, is currently reviewing the range of characters used by the ICSU-AB member services for internal processing and distribution purposes. This Task Group, after its initial meeting in April of this year, plans to recommend use of a series of nested subsets of characters suitable for both interchange and distribution purposes. These subsets as envisioned will be totally independent of input or output devices, but will take into account restrictions imposed by interchange media or equipment.

In numerating the accomplishments of the Working Group, I have through necessity already mentioned some of our unfinished work. Additional remaining tasks include preparation of definitions of codes for languages, countries, and dates, and data element descriptions for the non-periodical literature, though much of this latter work has been done. All of these tasks we hope to have well advanced by our October 1970 meeting.

However, on the basis of past experiences gained through associations with various efforts to standardize bibliographic data, the Working Group realizes that its recommendations may indeed not be as sound as we believe them to be. For this reason, the Working Group has recommended to the Central Committee that all of its recommendations for the preparation of bibliographic descriptions in machine-readable form be subjected to rigorous testing before being finalized.

Testing, as currently envisioned, will be an integral part of the preparation of the final version of the Working Group's recommendations. Let me outline our plan for you. One member of the Working Group, yet to be selected, will be selected to prepare in draft form a reference manual containing all of the Working Group's recommendations. This draft reference manual will then be turned over to an independent organization for testing. By independent I mean that the organization should not be affiliated with ICSU, ICSU-AB, UNESCO, or any of the ICSU-AB member services. The test will consist of first a drawing from the published literature a sample of primary journal articles that are representative of the full range of the bibliographic problems normally encountered by ICSU-AB member services. Problems will include those associated with pecularities and titling both of periodicals and articles, volume and issue numbering pecularities, journals contained within journals, and so on. The draft reference manual and copies of the sample articles will then be sent to ICSU-AB member services and others along with data sheets and, upon receipt, the recipients will be asked to provide a bibliographic citation for each document contained within the sample. The purpose of this test will be to determine whether or not different individuals with different backgrounds working in different environments and with different languages can indeed follow the recommendations of the Working Group.

Upon completion of the data sheets, the recipients will return them to the testing organization for evaluation and upon completion of the evaluation the Working Group member responsible for drafting the reference manual will revise the draft and prepare the final version of the reference manual. Both the tests and preparation of the draft and final versions of the reference manual will be done on contractual basis.

The Working Group estimates that some 13 months beginning after our October 1970 meeting will be required to prepare the draft reference manual, conduct and evaluate the results of the test, and prepare the final version of the reference manual.

How will the efforts of this Working Group affect the future of information transfer activities in the field of science ? Whether or not these efforts bear fruit is really totally dependent upon implementation of the Working Group's recommendations by the ICSU-AB member services and the world's other major secondary information services. The Central Committee at its second meeting emphasized that the scope of the Working Group on Bibliographic Descriptions is of first importance for the implementation of the world scientific and technical information network. It also emphasized that it would be extremely difficult to develop a computer-based world-wide network if no agreement could be reached on standards for the transfer of basic bibliographic data.

There are, I believe, three valid reasons for the implementation of this Working Group's recommendations by the ICSU-AB member services.

First, their implementation will permit the interchange of basic bibliographic data between the services and, thereby, facilitate cooperative efforts to reduce duplicate work.

Second, such standardization will immediately benefit the present user community. Receipt of machine-readable bibliographic data in standardized form from a number of processors will greatly facilitate the user's capability to incorporate these different subject oriented data bases into a unified file.

Third, I believe that the provision by the ICSU-AB member services of machine-readable records in a standardized format with an agreed upon level of data element content will result in an expansion of the market for these services. Some existing single service users will be willing to use additional services while potential users who have not, as yet, come forward will be willing to subscribe to our machine-readable records if it is economical practical for them to utilize a wide range of such records without first having to completely reformat the records prior to their internal use.

One final word : I have tried to avoid wherever possible using the word "standards". It has not been the intention of the Working Group to become a standards setting body. However, we would like to see our recommendations become ISO Recommendations as well as standards of various national standards bodies. To this end, from the very beginning of our work we have maintained a close liaison with the International Standards Organization Technical Committee TC:46 on Documentation. It is our intention that all of our recommendations be forwarded to ISO TC:46 for their consideration. We believe this sequence of events will result in a higher degree of success than if UNISIST and ICSU-AB had waited until ISO developed these needed recommendations before moving forward in this area.

1.3.6. PART 2 :

PROPOSALS FOR AN INTERNATIONAL SERIALS DATA SYSTEM

by M.D. MARTIN, Member
UNISIST/ICSU AB Working Group on
Bibliographic Descriptions
Manager, Information System, INSPEC

Background

At an early stage in its discussions, the UNISIST ICSU-AB Working Group on Bibliographic Descriptions recognised the need for an internationally agreed and internationally used code for identifying serial publications, and for a world-wide machinery to register periodical titles and to maintain the code. The Working Group proposed that a detailed study of such a system should be carried out by an ICSU-AB member service. The work was undertaken by INSPEC at the Institution of Electrical Engineers, London, with funds made available by ICSU.

The terms of reference for the study were "to define a world-wide machinery registering the essential characteristics of scientific periodicals and making them currently available to all interested individuals or organisations".

In this study, and in the discussions of the Working Group, careful account was taken of existing and proposed systems, primarily the ASTM CODEN and the proposed ANSI Standard Serial Number.

CODEN is a five-letter code administered by the Franklin Institute in Philadelphia on behalf of the American Society for Testing and Materials. Over 100,000 current and retrospective titles are included in the system, which is very extensively used by the major abstracting and indexing services represented in ICSU-AB, and therefore by those who use their products, especially computer based dissemination centres in a number of countries. But CODEN lacks full acceptance by the international information community, and has not been supported by adequate arrangements for publishing and distributing its lists. It has also been widely felt that a truly international code must be numeric rather than based on a particular alphabet.

The proposal for a Standard Serial Number (SSN) originated in the American National Standards Institute Committee Z39. It envisages a 7-digit number with a check character, somewhat similar to the International Standard Book Number. The machinery for maintenance of the SSN, however, has not yet been clearly defined. The proposal has been laid before the International Standards Organisation and was discussed in detail at a meeting of TC46/WG1 in Oslo in June of this year (after the completion of the UNISIST/ICSU-AB report).

The report (1) prepared by INSPEC was presented to the Working Group on Bibliographic Descriptions at its

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(1) M.D.Martin & C.I.Barnes : Report on the feasibility of an International Serials Data System.

meeting in Paris in April 1970. It was approved by the Working Group and has been submitted to the UNISIST Central Committee.

Throughout this study and within the Working Group, it was felt that the organisational aspects of recording serial titles and maintaining a code were more significant than the form and structure of the code itself. The report reflects this in that it presents proposals for an International Serials Data System (ISDS) of which a part, albeit a central part, is the maintenance of an International Standard Serial Number (ISSN).

ISDS is envisaged as a system centred on a data base, producing a certain range of products, providing services of code assignment to the world at large, and acting as a network of communication between the producers, distributers and consumers of serial literature. The following is a summary of some of the main points made in the report.

Basic principles

ISDS has been conceived within the framework of UNISIST. It is nevertheless essential that its subject coverage should be in principle universal. There can be no justification for an ISSN system which is confined to "science". Libraries, in particular, have an immediate need for a code which is completely general in application.

It is also essential that the ISDS system should be able to cover all periodicals, dead or alive, whatever their language, country and subject scope. The basic criterion for entering a journal in the ISDS system should be that one or

more users need to process the title. The system must therefore be able to respond quickly to a demand from a user.

A coding system for serial titles will be most effective only when the code is displayed on the serial issue itself. An important part of the activities of ISDS should therefore be to promote the use of the code and related bibliographic standards with periodical publishers.

Organisation

ISDS has been visualised as a network including an International Centre and a number of national or regional centres referred to hereafter as Local Centres. It should be made clear, however, that in referring to such centres the Working Group does not envisage the creation of new organisations, but rather the identification of existing units in the information field which could provide the facilities and expertise to support ISDS.

The possibility of a decentralised system in which Local Centres are responsible for code assignment was extensively considered. For a number of reasons, however, it was recommended that the main responsibility for assignment of ISSN and for the maintenance of proper bibliographic standards in input to the data should rest with a single international centre.

The structure of ISDS is visualised as including the following main organisational units :

a) - Sponsoring agency
b) - An expert steering panel
c) - The International Centre
d) - Local Centres

Sponsoring agency

The rôle of the sponsoring agency would be, first, to identify and appoint an international steering panel of experts which could exercice a broad policy control over the development and operation of ISDS ; and secondly, to assist in funding the work by engaging, where necessary, the co-operation of Governmental or other agencies.

Steering panel

The steering panel is envisaged as having executive control of the work which is carried out by the International Centre on behalf of the ISDS and executive control of the network as a whole. Its immediate functions would be :

a) - to identify and to work with an appropriate centre which would undertake the maintenance of the ISDS data base and the assignment of ISSN and act as the International Centre ;

b) - to identify and enlist the co-operation of appropriate organisations to act as local centres on a world-wide basis ;

c) - to exercise technical and financial control of the the establishment of ISDS and its continued operation.

International Centre

The International Centre as a functional unit would probably be quite separate from the sponsoring agency. It is visualised as located in an organisation which possesses a high level of expertise in the day-to-day handling of bibliographic problems, for example, one of the world's major

libraries. It would have responsibility for the final system design of ISDS and the creation of the initial data base. It would assign ISSN, and would respond quickly and effectively to requests for such assignment and notifications of title changes from whatever source. It would produce and distribute publications and services using the Local Centres as an exclusive distribution network wherever they exist. It would also work with Local Centres in using the data base as a means of producing notices for distribution to publishers to inform them of ISSN assignments to their publications and to seek their co-operation in keeping the file up to date.

Local Centres

A Local Centre might serve a single country or a group of countries or any other geographical entity. Some areas of the world would probably not be served in this way, but directly from the International Centre. ISDS would be completely flexible in this respect. Local Centres would carry out data acquisition work within their regions and distribute products and services from ISDS within the region. They would receive requests for ISSN, carry out initial processing and if the request could not be fulfilled locally, submit it to the International Centre. Similarly, they would transmit notifications of ISSN from the International Centre to the originator of the request and/or to the publisher of the periodical. In particular, they would have a major responsibility in maintaining liaison with publishers with a view to encouraging the display of accurate standardised title identification on their journals and prompt notification of new titles or title changes.

Since the completion of the original ISDS report, it has been suggested that the rôle of local centres might be enlarged to include the assignment of ISSN in certain strictly defined circumstances ; principally, when a request for code assignment is received from a publisher before the publication date of the first issue of a new title. There seems to be no reason why this should not be both feasible and desirable.

Conversion of CODEN

While the nature of the code itself may be regarded as less important than the organisation for its effective maintenance, and while there may be a number of quite good reasons for favouring a numeric code of the kind proposed by ANSI Z39, the Working Group has felt that very careful consideration must be given to the position of CODEN and its extensive use by A. & I. services and their users, and by a significant number of libraries and other institutions. If CODEN are superseded, it will be essential that the ISDS data base should, for an agreed period of time, carry both CODEN and ISSN, and that the system should be capable of providing indexes in machine-readable and printed form which would enable users to convert from one code to the other.

Conclusion

Perhaps ISDS can best be summed up by describing what it is not. It is not a system intended to provide complex cataloguing records for serials libraries. The data base is planned to give an unambiguous identification of a periodical title, a code for that title, an indication of its relationship with other serials - predecessors, successors, and related titles - and an accurate and up-to-date identification of the publishers. It is not intended as an international union list

of serials, although the data base would provide a possible foundation on which local, national, or international lists of this kind could be built. It is not intended that it should necessarily set out a priori to become an exhaustive world list of periodicals. The system would be built in response to user requirements, and over a suitable period of time the union of a large number of user-generated sets could be expected to converge as near to global exhaustivity as could be achieved by any other approach.

Finally, ISDS is not just a code registration system. Although this is its primary function, and although it is the need for such a serial code which has led to the development of these proposals, its greatest value in the long run may be in the establishment of a network of communication, particularly with the primary publishers, which can be used for the promotion, not only of a serials code, but also of many other much-needed bibliographic standards.

S E S S I O N 2 :

PROPOSED PROGRAMME FOR FUTURE WORK OF THE ICSU AB

Chairman : D.B. BAKER

2.1. INTRODUCTORY REMARKS

by Dale BAKER, Member
ICSU AB Planning and Steering Committee
Director, Chemical Abstracts Service

The subject of today's session is futurism. I would like to start this session with five quotations which I hope are appropriate for the occasion. Some pessimists have said that the world has no future. But in spite of the many threats to civilization, it was the heartening words of William Faulkner, the noted author, which struck me as a truism :

> "I believe that man will not merely endure ; he will prevail."

Looking far ahead has, of course, always fascinated mankind. As inventor Charles F. Kettering declared some years ago,

> "My interest is in the future, because I am going to spend the rest of my life there."

Says sociologist Anthony Wiener of the Hudson Institute :

"Trying to anticipate the future serves the same purpose as stowing a spare tire in the trunk of your car. It prepares you to respond to contingencies."

Glenn T. Seaborg, U. S. Atomic Energy Commission, says :

"Perhaps the greatest impetus to looking at the future is the revelation that we cannot continue the way we are going without disastrous consequences."

He sees the future as a kind of confrontation :

"In futurism, science and morality have been brought face to face."

"From this point on, there is a growing realization that man's future may be literally what he chooses to make it, and that the ranges of choice and the degree of conscious control which he may exercise in determining his future are unprecedented."

-- John McHale in a book, The Future of the Future

Before opening this session to the panel speakers and their presentations, I would like to make several points, as follows :

1. Planning as a Management Tool

ICSU-AB has not had an especially glorious, distinguished history ! Gestation started at an international meeting in 1948 and ICSU AB was born in 1951 out of frustations in the state of affairs in abstracting in the physics field. After considerable experimentation in trying to work together in a political and technical sense in the ensuing 16 years, ICSU-AB undertook a program of reexamination and reevaluation in 1968. It was in that year, as the result of a planning meeting in Goslar, Germany, that ICSU-AB goals and roles as well as a program of studies and projects were clearly set forth. This program was discussed at the full General Assembly in Goslar in 1968, and it was adopted at the Rome meeting in 1969. Implementation of various aspects of the program has been under way since the 1968 meeting. You heard some of the progress yesterday and you will hear more on the future developments this morning.

The above points up the need to use effective, coordinated planning for ICSU-AB between nations, scientific unions, and member services as a powerful, constructive management tool. This is one of the major purposes of ICSU-AB and one which I am convinced ICSU-AB can achieve !

Many futures are possible. The paths toward these futures have been mapped for ICSU-AB and it behooves us to make the management and technological decisions go forward in this decade as rapidly as staff and money permit.

2. World Systems for Information

Access to recorded scientific and technical information and the control of this literature is now attempted mainly through the aggregate of some 2000 abstracting and indexing services throughout the world. The number of major abstracting and indexing services which are international in character, however, is less than 25.

Often the search for specific pieces of information is sought in a number of places before any assurance can be obtained that the majority of the relevant material is actually located.

In 1967, Don Swanson wrote, "In no sense, however, do (the A&I services) function as a single system and it is certainly among the most important of requirements that at some future date subject interrogation should become possible in a single operation, with a request being guided by the system itself into the appropriate index where a search can be conducted."

I think all of us today would agree (a) that the above would be one ideal state towards which we should work, and (b) that it will take us many years, perhaps more than this century, to achieve such a state. But from the point of view of service to users and mankind, is there any better goal which deserves our utmost efforts and commitment ?

3. Worldwide Management Approach and Attitude

Most of us attending this meeting have had experience working on international activities and affairs in one way or another. The very fact that we are in attendance today signifies that we are much interested and involved in these affairs.

I recently learned that a new International Institute for the Management of Technology is being established early in 1971 and will be based in Milan, Italy. The accelerated movement towards industrial integration in Europe and across the world has created an enormous growth in demand for managers with an international background - managers who regard the whole of Europe as a single entity and can think in terms of world-wide operations.

Perhaps all of us have been limited in our scope and vision based on the separate heritages and cultures of our nations. And none of us is so naive as to believe that the social-political-economic aspects of working toward international systems are easily overcome. But I am hopeful that our true spirit of cooperative attitudes comes forth today and works in a constructive and positive manner toward mutual interests and activities.

Let us seek the widest possible dissemination of knowledge, and in particular, the open exchange of scientific and technical information. Let us share in our experience and work. Let us establish the necessary standards so that information systems are compatible. Let us daily build the international systems for A&I information work.

The presentations which follow report the ICSU-AB Planning & Steering Committee's work which has been endorsed by the Board :

- J.R. Smith : "A World System for Abstracting and Indexing Services"
- John B. Sykes : "General Policy and Program for ICSU-AB"
- Nathalie Dusoulier : "Technical Programs (General and Specific)".

2.2. A WORLD SYSTEM FOR ABSTRACTING AND INDEXING SERVICES PART 1 : A PLAN FOR DEVELOPING COOPERATION AT THE INPUT STAGE

by J.R. SMITH
Chairman, ICSU AB Planning and Steering Committee

This Plan was prepared by the Planning and Steering Committee of the ICSU AB, and endorsed by the Full Board at its closed session of July 20th, 1970, by the following Resolution :

" The Board resolved unanimously to approve the proposals contained in "World System For Abstracting and Indexing Services, Part 1, Plan for Developing Cooperation at the Input Stage", and the Planning and Steering Committee were instructed to proceed immediately with an Implementation Plan and with the preparation of first drafts of the plans for Stage 2 "Processing" and Stage 3 "Output". It was strongly stressed that the implementation of Stage 1 need not be delayed awaiting these."

A World System For Abstracting and Indexing Services

PART I

Plan for Developing Cooperation at the Input Stage

1. INTRODUCTION

The design, implementation and operation of a World System for Abstracting and Indexing Services is a long-range goal, which the ICSU AB considers primary amongst its long-term objectives.

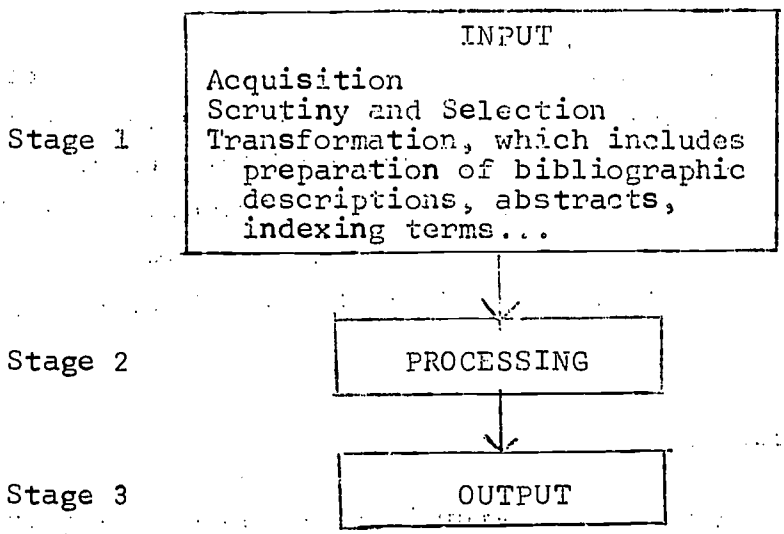
Such a system cannot be created ex nihilo, and time is too pressing to wait until a system covering all aspects of abstracting and indexing in all disciplines, languages, and countries can be designed to develop cooperation and coordination amongst existing (and future) services.

In fact, some elements of a world system for abstracting and indexing services already exist as is evidenced by the present cooperation amongst ICSU AB Member Services at various levels. But this system needs to be much more efficient and effective. The present ICSU AB approach to the problem is to identify separate blocks of studies and work, and to deal with them one at a time. Thus, ICSU AB will improve the existing system step by step.

The purpose of this paper is to present the ICSU AB plan for developing compatibility between its Member Services as a first step towards an integrated mechanized worlwide system for abstracting and indexing services.

2. FUNDAMENTAL CONCEPTS

2.1. Flow of Information. The flow of information through abstracting and indexing services can be described schematically as follows :



This paper will deal with Stage 1 (Input) only, as being of critical and immediate concern. Stages 2 and 3 will be discussed in subsequent papers when the issues related to Stage 1 have been resolved.

2.2. Input. Input within each abstracting and indexing service or within interconnected abstracting and indexing services, forming a world system, can be characterized by :

a. Acquisition

Acquisition is the process by which the appropriate segment of the world literature is chosen by an abstracting and indexing service to meet the needs of its users. It can best be determined in practice by a combination of four elements which are :

i. Scientific and technical fields covered.
ii. Kinds of literature (e.g. periodicals, patents, theses..)
iii. Countries where the literature is published.
iv. Languages in which the literature is published.

If the policy of each abstracting and indexing service regarding these above elements has been clearly stated, then each service can define its acquisition by a combination of them (e.g., abstracting and indexing services XX covers : periodical literature from the U.K., U.S.A., and U.S.S.R. in all languages in the fields a,b,c, and d; patents in English from U.K. only, in fields a and b, etc...).

b. Scrutiny and Selection

The source material (primary literature) which has been acquired is scrutinized and a selection made in accordance with the policy of each service as to :

-- Quality of this source material
-- Completeness

These policies must be specific and well defined for each of the elements of a. above.

c. Coverage

Coverage is defined as that material which is actually reported or included in an abstracting and indexing service. That is to say, the material which has been screened according to a and b above. The factors leading to a precise definition of coverage are therefore a combination of a and b above. That is

-- Scientific and technical fields covered
-- Kinds of literature (e.g. periodicals, patents, theses...)
-- Countries where the literature is published
-- Languages in which the literature is published
-- Policy regarding quality of the source material
-- Policy regarding completeness

d. Transformation

The source material which has been selected through a and b above, has then to be transformed in order to obtain

Level 01 : Bibliographic descriptions‡.
Level 02 : Abstracts.
Level 03 : Indexing terms.
or any combination of these levels which will be obtained through Stage 2 (Processing).

Some transformation of the source material may already have been done by the primary publication (e.g. author's abstracts) or by another abstracting and indexing service.

Any improvement in the present system requires that standards be established for each of the levels defined above, including not only the shape but the content.

2.3. Timeliness. All abstracting and indexing services have requirements as to timeliness which must be taken into account through all stages and, in particular, through Stage 1 which is considered in this paper. At present, timeliness requirements vary from service to service but any world system would need to meet requirements agreed upon by all participating services.

‡ As defined by the UNISIST-ICSU AB Working Group on Bibliographic descriptions.

3.- THE SYSTEM AS IT IS AND AS IT MIGHT BE

If a world system for abstracting and indexing services is defined as a conceptual entity, it can be thought of as an aggregate of existing abstracting and indexing services all over the world.

a. The system as it is

The overall input into this system is the aggregate of the input of all the individual abstracting and indexing services and the coverage is the aggregate coverage (union, in terms of set theory) of all the individual abstracting and indexing services.

At present

i. Each individual service receives almost exclusively source material, which it scrutinizes and transforms.

ii. There exists only a little cooperation at the input stage between large abstracting and indexing services.

iii. As a consequence of i and ii above, the same material is acquired, scrutinized and transformed by the different services independently, each service outputs the same material (in terms of coverage) as it inputs, and there are tremendous duplications within the system.

A basic definition of each factor of the coverage would enable the coverage of each service to be described in like terms, and would enable the overall coverage of the system and conversely areas of incomplete coverage and gaps, to be identified.

b. An ideal situation

An ideal situation might be a complete sharing of the input stage by Member Service with no duplication and no areas of incomplete coverage (Figure 1). This might be the most economical system at the input stage. The information input would then be redistributed and each Member Service would take, as output, part of the whole information according to the needs of its users.

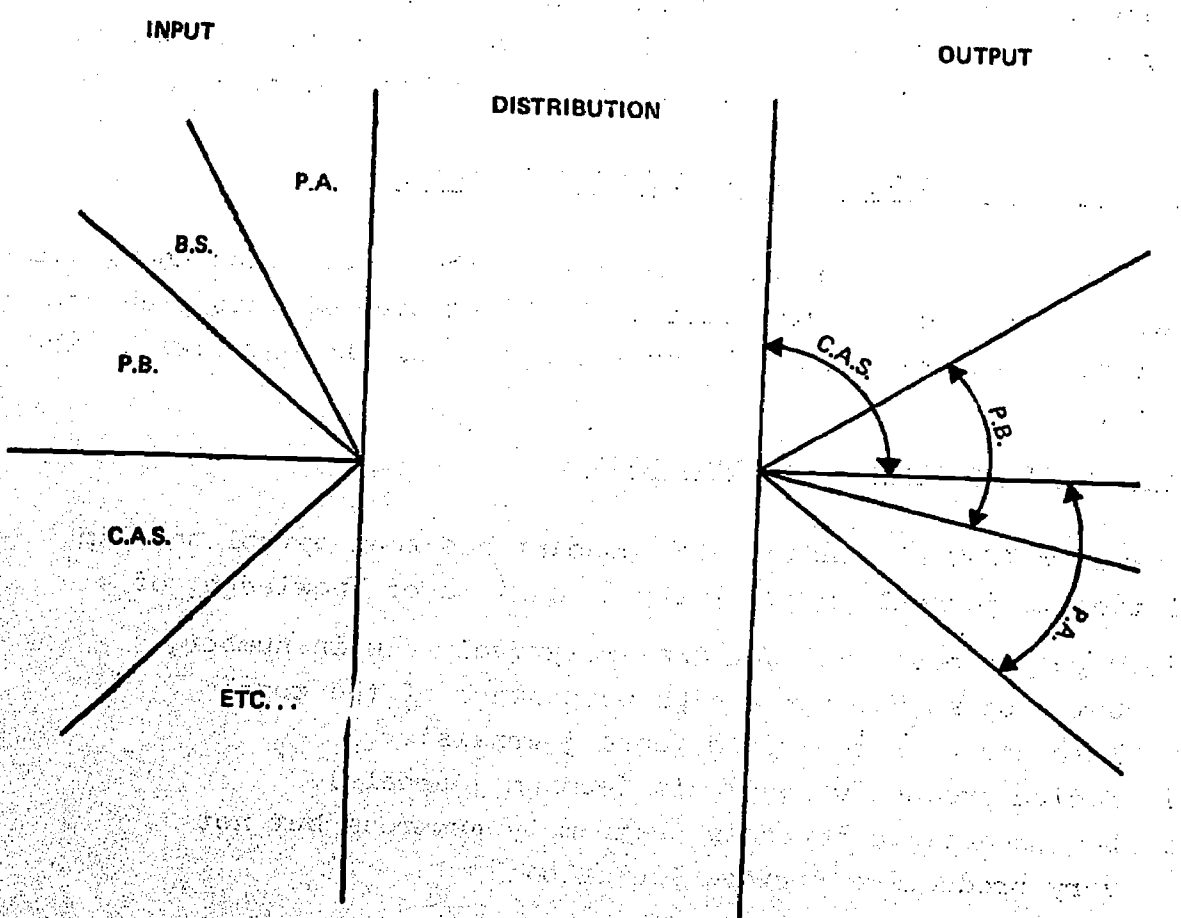


FIGURE 1

From the level point of view, the ideal situation would be that each individual service inputs into the system bibliographic descriptions plus abstracts plus indexing terms, this information being standardized and in machine readable form.

There is, of course, a long way to go from the present situation to this one which may even never be feasible because, for example, of language problems. The solution has to be thought of realistically and should be one which will approach as nearly as possible an ideal solution which should be kept as a long-range goal.

THE ICSU AB PLAN FOR DEVELOPING INPUT COMPATIBILITY

The ICSU AB plans to develop compatibility at the input stage among its Member Services on a world-wide basis. The first step of this plan concerns periodical literature which forms the bulk of the material at the input stage.

a. The concept of journal productivity

In earlier ICSU AB studies, the concept has been established in relation to journal productivity in a field of knowledge, of :

i. Highly productive journals, relatively few in number, but responsible for a high percentage of the total literature of the field (core journals).
ii. Medium productive journals (medium journals).
iii. Low productive journals, extremely numerous but not very productive (fringe journals).

The coverage of "core journals" is extremely important for Member Services whose quality depends, to a large extent, on this coverage. It will therefore be assumed, in a first realistic approach, that each Member Service must cover the core journals in its field worldwide. This situation may change in the future if the plan proves itself satisfactory from the requirements point of view for medium and fringe journals.

It has to be remembered, however, that journals which are core journals for one field are usually medium or fringe journals for other fields. Therefore, Member Services dealing with core journals in one field could assist Member Services in other fields. Such a breakdown of the literature is indicated in Figures 2(a) and 2(b).

b. Plan for developing cooperation for core journals among services using the same language

Taking the English language services as an example :

PA covers core journals in physics worldwide
CA covers core journals in chemistry worldwide
BA covers core journals in biology worldwide

Taking chemistry as a more specific example : Chemical Abstracts undertakes all steps at the input stage for core journals in chemistry. Each time an article is found which belongs to another field or fields CA sends to a central redistributing unit :

-- the article in microform accompanied by the author's abstract, if any, in its original language;
-- the standardized bibliographic description on magnetic tape accompanied by a code indicating which fields the paper belongs to.

Of course, a correspondence will be established between the article and the bibliographic description by means of a number which could be the document identification code now being developed by the UNISIST-ICSU AB Working Group on Bibliographic Descriptions.

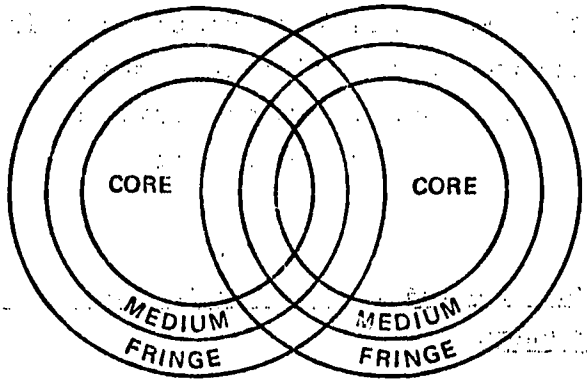


FIGURE 2(a)

	Core Chem.	Medium Chem.	Fringe Chem.	Not Chem.
Core Physics	1	2	3	4
Medium Physics	5	6	7	8
Fringe Physics	9	10	11	12
Not Physics	13	14	15	16

PHYSICS is boxes 1 – 12

CORE PHYSICS is boxes 1–4 and these journals are covered by each Member Service in Physics

CHEMISTRY is boxes 1–3, 5–7, 9–11, 13–15

CORE CHEMISTRY is boxes 1, 5, 9, 13 and these journals are covered by each Member Service in Chemistry.

FIGURE 2(b)

The central redistributing unit would sort the information according to the "field code" and send it to the interested abstracting and indexing services in the same language. (Figure 3)

This cooperation at level 01 could be expanded to level 02 (abstracts) and 03 (indexing terms) within the same output language.

It is recognized that these might be sent to the redistributing unit at a date later than the initial reference because of the timeliness requirements.

The redistributing unit need have no existence, in fact, if it is determined after study that each Member Service could undertake this role. (Figure 4)

An exchange of personnel between Member Services would be absolutely essential for a proper allocation of the articles to field.e

c. Plan for developing cooperation between Member Services using different languages for non-core journals

These are the journals which are not core journals in any of the fields presently covered by the Board. The cooperation between abstracting and indexing services outputing information in different languages would remain at level 01 (bibliographic descriptions) until significant progress had been made for solving the problem of language transfer.

Fringe and medium journals in each language would be allocated to Member Services in the language in which they operate. (Figure 5)

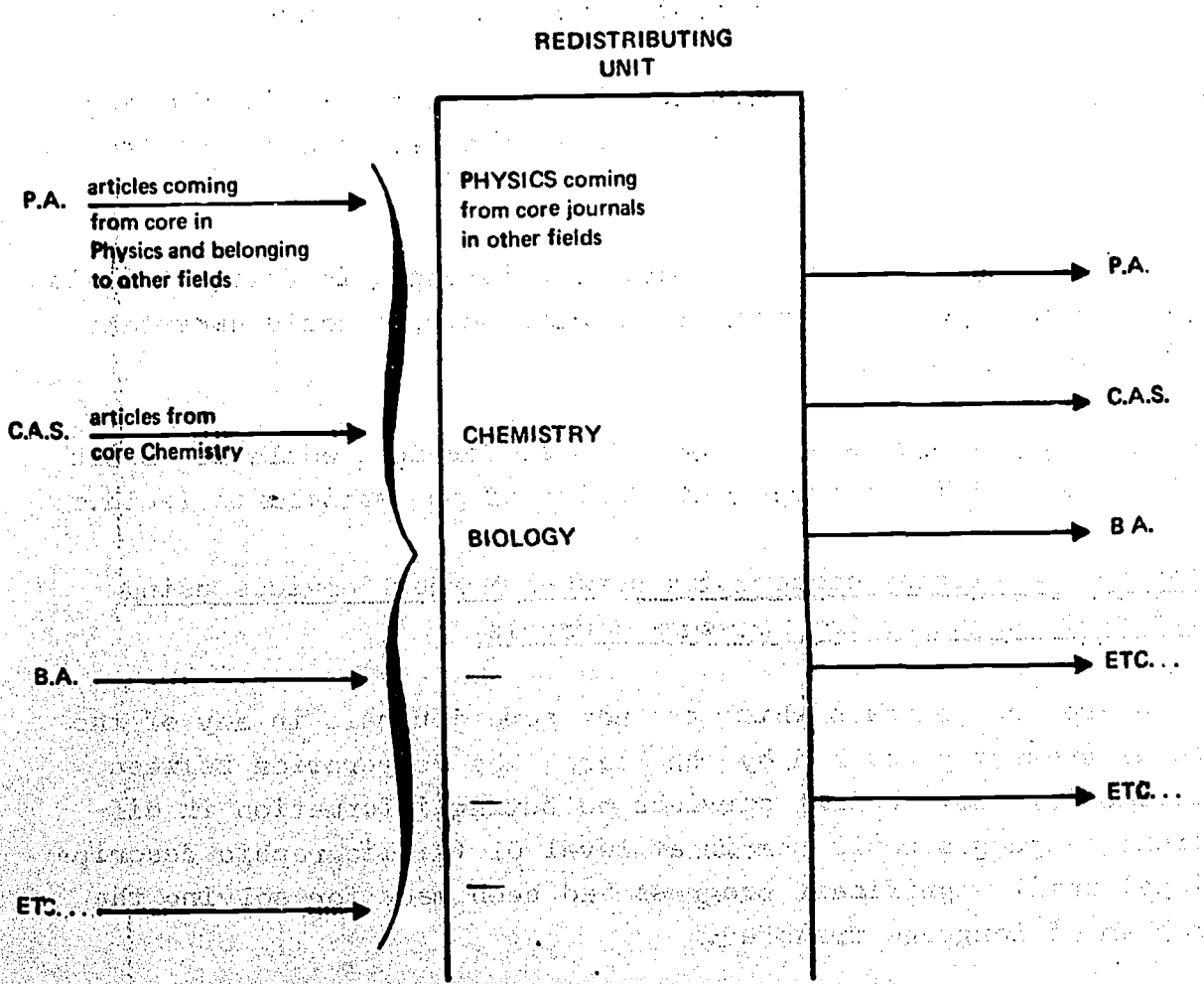

REDISTRIBUTING UNIT
P.A.
articles coming from core in Physics and belonging to other fields
C.A.S.
articles from core Chemistry
B.A.
ETC...
PHYSICS coming from core journals in other fields
CHEMISTRY
BIOLOGY
P.A.
C.A.S.
B A.
ETC...
ETC...

FIGURE 3

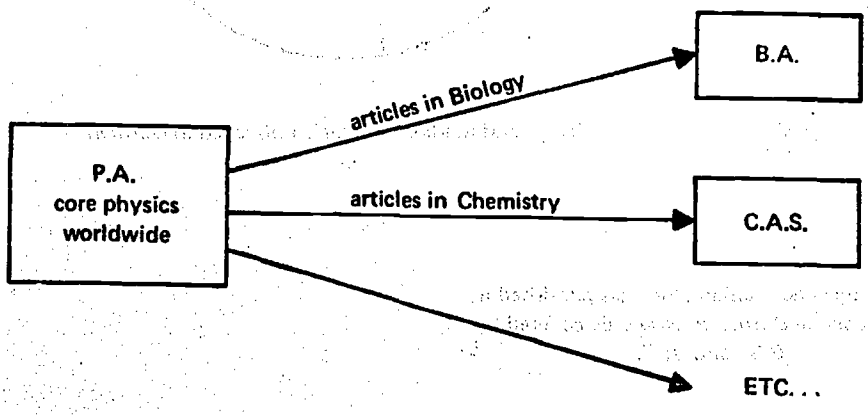
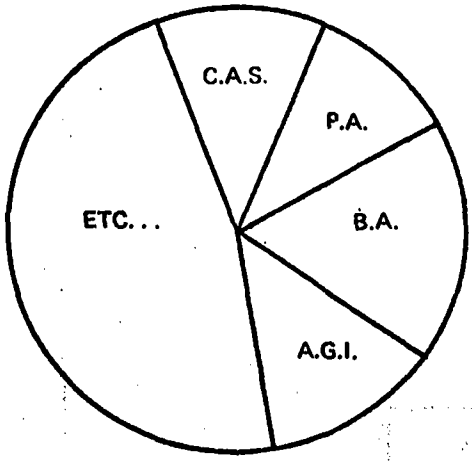
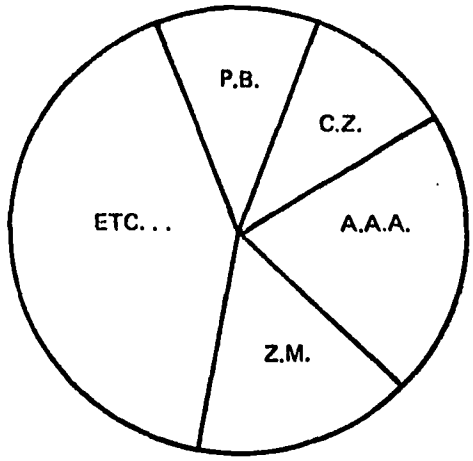

P.A.
core physics
worldwide
articles in Biology
articles in Chemistry
B.A.
C.A.S.
ETC. . .

FIGURE 4



Fringe and Medium Journals published in *English*



Fringe and Medium Journals published in *German*

Fringe and Medium Jorunals published in *French and Russian* would be covered by ***B.S.*** and ***R.Z.***

FIGURE 5

Each Member Service would give to all papers published in these journals a code indicating the field to which they belong and send to a central redistributing unit, as above :

- the article itself in microform accompanied by the author's abstract, if any, in its original language;
- the standardized bibliographic description on magnetic tape accompanied by a code indicating which fields the paper belongs to.

The central redistributing unit would sort this information according to fields and send it to Member Services. (Figure 6)

With regard to fringe and medium journals published in languages for which there are no Member Services of ICSU AB, they could either be shared among existing Member Services or processed in the traditional way.

d. Comments

The advantages of the plan are economies and improvement of the coverage.

i. **Economies**

There is, of course, an overall economy within the system itself since medium and fringe journals are processed once only, but there are also economies at the level of each individual Member Service. Medium and fringe journals are very expensive to process because they are very numerous. Previous studies have shown that, roughly speaking, core journals which produce 60 to 80% of the total number of articles published in one field amount to not more than 5 to 20 % of the total number of journals which are productive in this field.

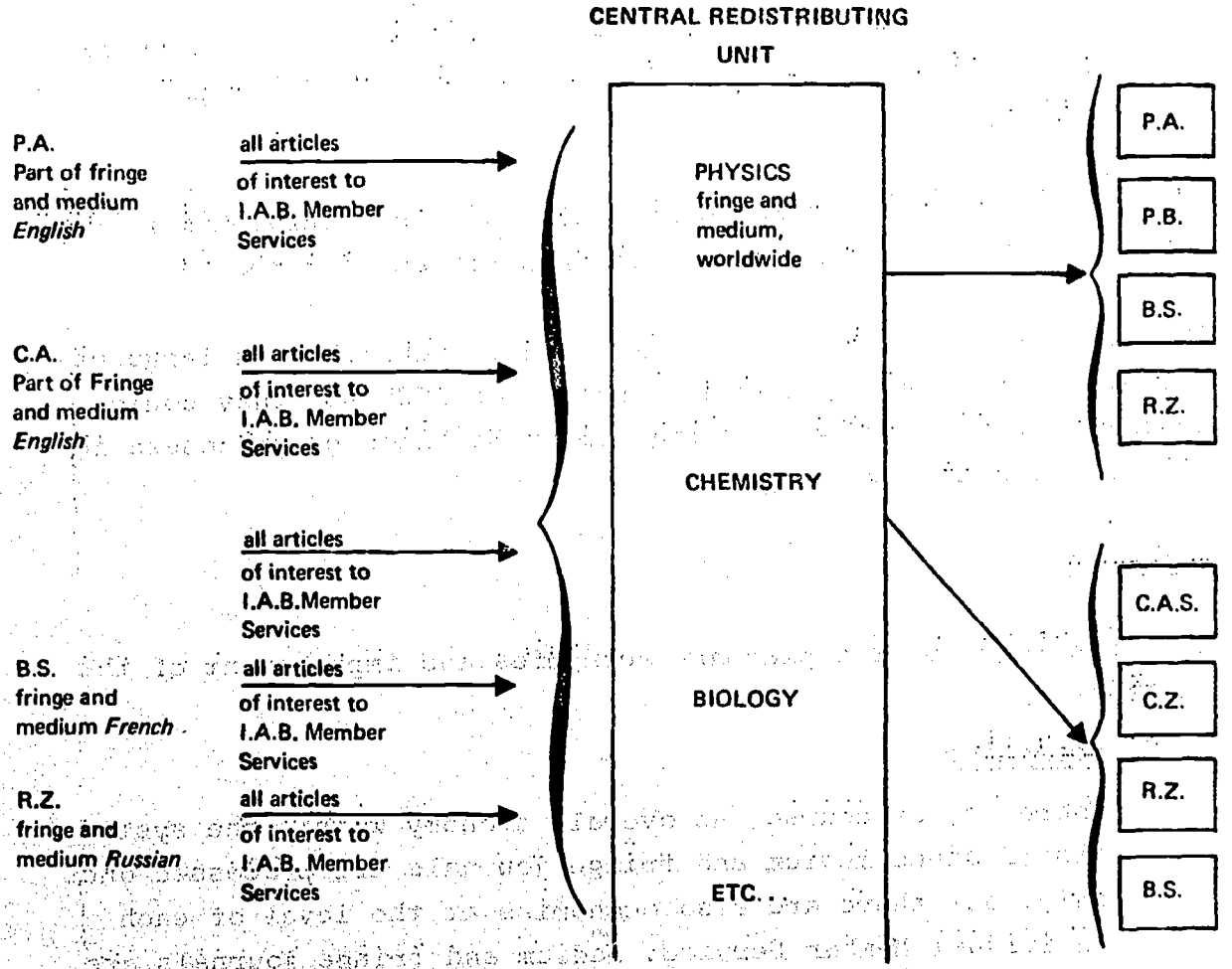

CENTRAL REDISTRIBUTING UNIT
P.A.
Part of fringe and medium English
all articles of interest to I.A.B. Member Services
C.A.
Part of Fringe and medium English
all articles of interest to I.A.B. Member Services
all articles of interest to I.A.B.Member Services
B.S.
fringe and medium French
all articles of interest to I.A.B. Member Services
R.Z.
fringe and medium Russian
all articles of interest to I.A.B. Member Services
PHYSICS fringe and medium, worldwide
CHEMISTRY
BIOLOGY
ETC. . .
P.A.
P.B.
B.S.
R.Z.
C.A.S.
C.Z.
R.Z.
B.S.

FIGURE 6

ii. Improvement of coverage

The overall coverage of the system could be improved by identifying the areas of incomplete coverage but the major advantage is that the input of each Member Service would be increased. In fact, it would be exactly as if each individual service was acquiring the aggregate of each Member of the system. This is estimated to amount, at the present, to some 35,000 journals.

In order to make the time-lag acceptable, it would be necessary to develop the provision of page-proofs. This will be easier with the proposed system since page-proofs of core journals would need to be sent to four or five services only and page-proofs of fringe journals to one service only.

The system would also give an opportunity for better relationships with editors of primary publications and would remain valid whatever form primary publications might take in the future.

It also remains valid, whatever the number of Member Services participating in the system. Bilateral agreements between Member Services can still be undertaken without any disturbance to the overall plan.

An expansion of the system to other kinds of literature would naturally follow.

iii. Benefit to the users

The coverage of all Member Services would be better defined and users would be able to determine more easily the services best suited to meet their needs.

The speed and quality of the services should be substantially improved.

5. NECESSARY STUDIES AND GUIDELINES

To assist in the early development of common agreements among Member Services, on exchange and compatible input, a program of projects and studies

a. will be continued where presently underway and as needed; and
b. new studies will be undertaken based on priorities as established by the Board and as time and resources permit.

Included in these basic studies are the following :

a. Subject definitions and classification studies

The work which has been underway for two years will be continued. Final reports will be prepared by the Working Groups in the scientific disciplines identified within the Board. These reports will be distributed to assist in reaching common agreement of definitions and understanding of subject coverage. An annual updating of the material in these reports will be carried out to include the latest developments in the fields as defined by the Member Services.

b. Study of overlap in the abstracting of primary journals

The objective of this study will be to identify the degree of overlap among the Member Services. Previous studies on the core journals will be expanded to include an up-to-date and complete

as possible listing of the journals being covered by the Member Services for comparison and identification of overlap. An agreement on lists of core, medium and fringe journals for each field will be a goal of this study.

c. International network of periodicals

The effective operation of an international network for identifying, listing, and controlling periodicals as proposed to UNISIST by the UNISIST-ICSU AB Working Group on Bibliographic Descriptions will be an important adjunct to this cooperative program. It is possible that ICSU AB might, with its background, be in the best position to undertake the establishment and maintenance of such a network.

d. Primary document overlap studies and program of exchange

The purpose of these studies and exchanges would be to determine the selection policy of individual Member Services for individual papers within journals to assist in improved selection and coverage for exchange purposes. Experimental programs of exchange of abstracts from these journals will be continued where they have begun and extended to include cooperating Member Services wherever feasible. Controlled guidelines will be established to assist Member Services in the forwarding of documents and abstracts directly to the cooperating organizations or to the central clearing-house for forwarding to other users. Eventually, it is hoped that standards can be developed for common coding of primary individual paper identification numbers which can be used to facilitate rapid and easy exchange cont l.

e. Editorial policies and procedures

The results of the work of the UNISIST-ICSU AB Working Group on Bibliographic Descriptions will be used as a base to establish guidelines for common editorial practices. Further studies on the differences in editorial practices and policies will be developed as these relate to the content and form of abstracts of the Member Services. The general acceptance of a standard for material to be included in abstracts will be attempted.

f. Indexing studies and cooperation

The various indexing approaches used by the Member Services by fields will be analyzed for similarities and differences. The goal will be to supply abstracts and index entries based upon one intellectual analysis step for common input.

g. Machine readable information systems interconnections

A program of studies and a detailed inventory of the operating systems of Member Services computer-readable data bases and records will be carried out to identify degrees of compatibility and convertibility. Minimum standards will be established where desirable. Further standards for interchange will be investigated and implemented wherever mutually advantageous to Member Services.

6. CONCLUSIONS

The opportunity for a coordinated international network for the transfer of scientific and technical information increases each year. Major and current motivating forces are :

a. Information organizations are eager to improve their systems and services.
b. The financial pressures are forcing information organizations to consider ways of sharing rather than duplicating materials and resources.
c. The advances in technology of communications permit sound, pictures and digital data stored at distant locations to be made available rapidly and efficiently with relative ease.

The Abstracting Board has an obligation to conduct a program of studies and projects aimed at improving the flow of scientific and technical information. Insofar as a majority of the world's new scientific and technical information is being channeled through the abstracting and indexing organizations represented on the Board, the planned studies should help towards decisions for change which will result in compatibility for improved exchange and worldwide information dissemination.

The preliminary studies identified in this paper are thought to be prerequisites of a system design and the design study would naturally follow immediately after the completion of the preliminary studies.

The ICSU Abstracting Board is in a unique position to develop a system of the kind envisaged since its Members include the world's largest and most important secondary information systems.

In developing the system, the ICSU Abstracting Board would be pleased to cooperate with any other organizations competent to contribute to the work.

2.3. GENERAL POLICY AND PROGRAMME FOR ICSU AB

by J.B. SYKES, Member
ICSU AB Planning and Steering Committee

Dr Sykes referred to the ICSU AB leaflet which had been distributed to participants, and to the structure of the Board indicated in the leaflet :

ICSU AB

Executive Committee

Planning and Steering Committee
(established January 1969)

Committees and Working Groups
(which had reported earlier in
the Columbus meeting)

Task Groups
(including non-members of
the Board where desirable)

As regards the Committees and Working Groups he mentioned in particular the current programmes of the following.

Working Group on Bibliographic Descriptions : collaboration in the UNISIST project.

Working Group on Classification : help in implementation of the plan for input co-operation presented at the Columbus meeting by J.R. Smith.

Working Groups by Fields : exchanges of abstracts and journals lists by Member Services.

Statutes Committee : preparation of revised statutes, by-laws and working rules, for adoption by the 1971 General Assembly of ICSU AB. These would take account of the resolutions passed at the Columbus meeting.

Under the heading of future programmes, Dr Sykes mentioned the subject of membership and evolution of the Board, especially the admission of more Unions and Associate Members, the criterion of eligibility of the latter being wide. The position of 'mission-oriented' and 'for-profit' services must be settled. With increasing membership, it may become necessary to interpose a further level of administration between the full Board and the Executive Committee.

Efforts will be made to promote closer relationships with Unions and their Commissions, with publishers and editors (through the Primary Publications Committee of ICSU AB), with the Fédération Internationale de la Documentation, the International Organisation for Standardisation and similar bodies,

and with librarians and the International Federation of Librarians' Associations. In all these approaches the aim is not to dictate policy to others but to seek means of mutual assistance.

The plan for worldwide co-operation between Abstracting and Indexing Services will be extended to include the processing and output of information.

Other problems to be tackled are those of language, publicity for information services, and education of scientists and technologists in the value and effective use of these services. ICSU AB is willing to devote its efforts to the furtherance of such aims in any field where it is competent to help.

Dr Sykes concluded by drawing attention to the implications of these developments as regards the scale of financial support and secretariat organisation that the Board would need in order to do its work satisfactorily.

2.4. TECHNICAL PROGRAMMES FOR ICSU AB (GENERAL AND SPECIFIC)

by N. DUSOULIER, Member
ICSU AB Planning and Steering Committee

The purpose of the Board is to organize and promote on an international scale, the publication and exchange of primary and secondary scientific and technological information, primarily in the fields covered by the Member Unions of the International Council of Scientific Unions, and to deal with related matters directed towards improved dissemination of such information.

The Board will work especially to develop cooperation and compatibility among abstracting and related information services in science and technology, both nationally and internationally.

The opportunity for a coordinated international network for the transfer of scientific and technical information increases each year. Major and current motivating forces are :

- information organizations are eager to improve their systems and services
- financial pressure is obliging information organizations to consider ways of sharing rather than duplicating material and resources, and advances in communication technology permit sound, pictures and digital data stored at distant locations to be made available rapidly and efficiently with relative ease.

The Abstracting Board has an obligation to conduct a program of studies and projects aimed at improving the flow of scientific and technical information. Insofar as a majority of the world's new scientific and technical information is being channeled through the abstracting and indexing organizations represented on the Board, the studies promulgated should identify similarities and differences in operating procedures and plans, in the hope that decisions for change will result in compatibility for improved exchange and world wide information dissemination.

A program of studies and projects was developed. Amongst these projects the most important is to define strictly what we expect from this proposed cooperation and to consider the obligations which the establishment of such a system will impose upon us.

For example :

- What is our target system ?
- What systems design and requirements are necessary for good compatibility ?
- What will such compatibility cost and what are the expected benefits ?

A - MUTUAL INFORMATION ON THE ACTIVITY OF MEMBER SERVICES AS WELL AS ON PROBLEMS OF GENERAL INTEREST

In order to cooperate we must get to know each other. An essential condition for profitable cooperation is regular, mutual information on the state of work in progress and that projected by each member service. With this end in view a certain number of activities have been undertaken and will be continued.

1 - Continue circulating questionnaire on status of Member Services at two year intervals. Develop charts and a report on status every 4 to 6 years.

2 - Each member service should send to the Secretariat, to member services and to Union representatives any papers and promotional material issued about their services, future plans, etc.

3 - Exchange of personnel among member services.

4 - Exchange of know-how, techniques and experience.

5 - Information exchange among member services about changes in the primary literature (new publications, title changes, etc..).

6 - Preparation of reports on R. and D. programs by each Member Service.

B - TECHNICAL STUDIES NEEDED FOR INFORMATION TRANSFER BETWEEN MEMBER SERVICES

Apart from good information a certain number of rules must be established and a certain number of studies undertaken in order to make cooperation feasible. These rules are in process of codification and certain studies are already under way.

1 - UNISIST ICSU AB Working Group on Bibliographic Descriptions has studied standardization for periodical literature, character sets used by Member Services, the setting up of an International Serials Data System and the publication of a reference handbook for the preparation of bibliographic descriptions from periodical literature which will be tested before issue.

2 - Standardization of abstracts.

It was agreed unanimously that the standardization of abstracts is of highest interest. This has already been reported by the Committee on primary publications.

3 - Comparison of classification schemes.

As a first step towards the production of an efficient and unique broad classification for science, which is pre-requisite for the effective transfer of scientific information between disciplines and across language barriers, comparative studies have been effected in the disciplines represented on the Board (particularly in Chemistry, Physics, Biology, Astronomy, Geology).

These comparisons have as a first objective, the establishment of a common classification scheme for all member services in each discipline. This basic classification scheme will be of help in scrutiny sharing of medium and tail journals amongst Member Services working in the same field. It will also facilitate the coverage of fringe fields by services processing in ajoining fields (see Plan for Developing Cooperation at the Input Stage).

4 - Establishment of a committee to study and recommend on software and hardware to facilitate exchange on tapes.

5 - Review the controlled vocabularies in current use among Member Services.

6 - Solve language problems by setting up Working Groups on multi-lingual thesauri. An experiment is already underway in the field of Geology.

7 - Study and experiments in index languages.

8 - Discussions and deliberations of the disciplines concerned Working Groups by fields comprising representatives of the Member Services and of the Member Unions have been formed. During the sessions, problems specific to each field are identified, discussed and if possible resolved.

C - GENERAL STUDIES

In order to participate actively in the development of Information Sciences and to reduce uncoordinated efforts to a minimum, the Board has decided to undertake, with the help of its Member Services, a number of studies of more general interest.

These studies are concerned with :

1 - Improvement of transfer of information, development of interconnections and coordination of work among ICSU AB Member Services.

2 - Forecasting and planning of development and evolution of Abstracting and Indexing Services.

3 - Abstract production.

4 - Study of automatic documentation and problems related to hardware and software.

5 - Consideration of problems of "hard copy" dissemination.

6 - Solutions needed to handle backlog of scientific information.

7 - Study of the economics and methods of selective dissemination of information systems.

8 - Study of automatic compilation and printing

9 - Study of the best methods of photocomposition.

10- Study of on line indexing.

11- Study of on line editing.

12- Study and experiments in index languages.

13- Establishing programs of studies on economics of abstracting and indexing services in order to :

a) achieve economic viability
b) develop program on marketing
c) establish experiments and studies on wholesailer and retailer problems

14- Study of the problems of report literature.

D - INTERFACES OF ABSTRACTING AND INDEXING SERVICES WITH OTHER SCIENTIFIC ORGANIZATIONS

The main aim of Abstracting and Indexing Services is to seek, gather, notify and disseminate documents from various sources as exhaustively as possible. But besides these activities there are other kinds of information organizations whose work, although different from ours, are related to information problems.

Between these organizations a distinction must be drawn :

- Centres of Information Analysis
- Data Centres

The function of the former is to acquire all material likely to contain information of interest to users working within their specialised fields and to arrange for its evaluation by specialists.

Part of this material is furnished by the A and I services. These centres not only disseminate detailed information but will provide complete data (numerical or other) on any subject as requested.

The numerical data, treated according to their particular needs by the Data Centres are also, in some cases, taken from secondary information sources of A and I services.

There is a close relationship between all information processing organizations, and Board members should be alive to the necessity of studying the rational division of work at all levels which this entails.

S E S S I O N 3 :

REPORTS FROM MEMBER SERVICES
AND
MEMBER UNIONS OF THE ICSU AB

Chairman : V. WEIDEMANN

3.1. VINITI
A DESCRIPTOR INFORMATION RETRIEVAL SYSTEM IN INFORMATICS (DIPSI-1)

By I.N. SOROKIN
Deputy Manager, VINITI
Vice-President, ICSU AB

A Documentary Information Retrieval System for Informatics has been developed and put into operation at the All-Union Institute for Scientific and Technical Information (Academy of Sciences, USSR) in May, 1970.

The information file of the system comprised by the 1st of May, 1970, 25.5 thousand documents. The file included all the abstracts which had been published in the Abstract Journal "Scientific and Technical Information" since its initiation in 1963 up to the present time.

The average annual accession to this collection on informatics will amount to 4 to 5 thousand units.

As a preliminary step for the IRS development, a Dictionary of Descriptiors and a Russian-plus-Descriptors Dictionary were compiled - and tested on a representative collection of more than 8 thousand documents.

The Descriptor Dictionary includes 983 descriptors grouped into 13 subject classes and one open-ended class for the descriptors introduced into the dictionary in the process of document indexing.

The subject classes isolated cover the whole field of informatics and also include abstract and general concepts, geographic names, and names of languages necessary for the indexing of the information file concerned.

Each class is assigned an index- a letter of the Russian alphabet which was chosen, mostly, for mnemonic reasons.

The list of subject classes is as follows :

1. А - Abstract and general concepts
2. Б - Library work
3. Д - Documents. Analytic and synthetic processing
4. И - Retrieval of Information
5. К - Copying. Copies
6. М - Machines. Devices
7. Н - Science, Industry. Branches of economy
8. П - Processes. Techniques
9. Р - Reproduction. Printing
10. С - Countries
11. Т - Texts. Information. Translation
12. Ї - Information activities
13. Я - Languages
14. Х - Open-ended class for newly-introduced descriptors.

The number of descriptors in each class varies from 29 to 106.

The Russian-plus-Descriptors Dictionary includes, in addition to descriptors, the key-words which are listed in a general alphabetic sequence. At present, the Russian-plus-Descriptors Dictionary contains about 3,000 dictionary entries ; the number of key-words will increase substantially after the results of indexing the 25.5 thousand documents have been processed.

Next to the Dictionary of Descriptors, and the Russian-plus-Descriptors Dictionnary for Informatics, an "Informatics Information-Retrieval Thesaurus" was compiled which contains a system of paradigmatic relations between descriptors and the semantic cards, for each subject class of descriptors. The thesaurus remained practically unused in the document indexing work, since the authors of the system had chosen the method of so-called free coordinate indexing. Indexing with redundancy is performed in formulating the search patterns of requests. The main use of the thesaurus is in the document retrieval, and it defines, to a large extent the strategy of search.

Following the compilation of the Russian-plus-Descriptors Dictionary, and the training of an indexers'team, consisting of 12 expert specialists, in the methods of coordinate indexing, the document file came to be indexed ; the qualification level and the subject orientation of the indexers was considered in the process, and this contributed to a high standard and uniformity of manual indexing.

As a result of the indexing, the search patterns for documents were prepared which are sets of descriptors (and corresponding codes) with the numbers of documents, i.e. their addresses in the "Referativnyj Zhurnal" (Abstract-Journal).

A system of a three-place alphanumeric code had been prepared in advance for each subject class of descriptors. This notation was selected, principally, in view to subsequent implementing the system on a sorting machine with an electronic attachment for document selection (ДЗД) which uses three-digit codes.

The forms containing document search patterns were forwarded to the machine-processing center where the entire file of the search patterns was punched into 80-column cards in the "H" code. The punch-card file was sorted by year, and a careful checking of the tabulation was made. After this, in order to reduce the retrieval time, the punch-card base (25.5 thousand) was sorted according to subject classes and prepared for the retrieval operation to be carried out using the ДЗД sorting machine, all of which ensured the realisation of the 1st mechanized version of DIPSI-1 system.

Simultaneously, the entire punch-card file was converted to magnetic tape, and prepared for input to the electronic computer MINSK-22. A retrieval programme tailored to this computer was written and tested. This accomplished the 2nd automated version of DIPSI-1.

At present, work is in progress on the operational improvement of the IRS in two versions (using MINSK-22 ; and the ДЗД), as well as on practical testing of the search strategy selected.

The development team envisions modifications forms for the DIPSI-1 and plans for a DIPSI-2. Part of these plans are : the programmes for "package" retrieval (batch input of requests) now readed for verification, a programme for

formulating search patterns in disjunctive normal form, as well as processes to improve the Russian-Plus-Descriptor Dictionary and the thesaurus for informatics.

The service through the DIPSI-1 is at present available only to the staff of the All-Union Institute for Scientific and Technical Information (VINITI). In the fall 1970, however, service to external users of information will be opened via this system, in which retrospective searches as well as selective dissemination of information will be conducted, with copies of secondary information documents (abstracts) provided on request and copies of individual key publications (articles, patents, etc.) additionally sent, if desired.

3.2. BULLETIN SIGNALETIQUE
PROGRESS REPORT

by N. DUSOULIER
Editor in Chief, Bulletin Signalétique

The transformation of a classical documentation service into a modern, swifter and more personalised organisation, has been one of Bulletin signalétique's main aims for several years and progress realised during 1970 is a result of this change. Bulletin signalétique is now in the final stages prior to mechanisation. In order to attain this goal it had to prepare, at the same time :

- linguistic tools
- technical procedures (processing and editing)
- inquiries regarding users' needs and coordination with other systems.

In order to have the best chance of maintaining quality and coverage, without sacrificing to speed, it was necessary to tackle these three problems simultaneously.

An added difficulty was to continue satisfying our subscribers with the same regularity as before. It is from this point of view that all our activities during 1969-1970 must be judged ; essentially as a steady advance towards the goals we had set for ourselves. Visible results already exist such as the improvement of existing services and their diversification ; other changes where staff activity has been greatest (most particularly all stages of mechanisation) include studies and testing but these results will only be seen in 1971.

New activities in 1970

A new section : 101 "Information scientifique et technique", has been issued.

This section, processed by the computer at the Centre de Calcul du CNRS at Orsay, was used to test our first programs, which will be dealt with later. The actual computer print out for offset publication is only temporary ; the phototypesetting program allows for the same variety of type as for other sections of Bulletin signalétique. Library and information science documentary techniques are the main subjects covered. Author index, subject indexes in French and English, and a list of French papers by field are included.

New chapters have been added to existing sections in 1970 :

Section 150 "Nuclear Physics, Chemistry and Technology" now has an important chapter on nuclear chemistry. An agreement with the CEA (Commissariat à l'Energie Atomique) for a more national system of collecting and processing nuclear information, now enables us to publish monthly subject indexes, coverage of reports etc.

A number of chapters have been redistributed for a best service to the users. Control theory, previously part of Mechanics, has been placed in Section 110 next to Computers and information processing. Cosmic rays and meteorites are now in Section 120 (Astronomy and Astrophysics).

In 1971, in agreement with other centres and in accordance with users' requests, we will publish three new sections : Section 362 : Diabetes and metabolic diseases, Section 363 : Genetics, and Section 885 : Water and sewage, and we will regroup Psychiatry with Psychopathology in Section 390.

In order to facilitate the use of Bulletin signalétique we continue to increase the number of sections having monthly subject indexes. In 1969 there were eleven such sections, in 1970, sixteen, in 1971 there will be twenty-one for exact and Life Sciences ; All sections have annual indexes.

Studies in index vocabulary and structure have led us to prepare thesauri or at least lists of synonyms. In 1970 we published : a list of synonyms in Chemistry and a thesaurus in General and Experimental Pathology. A thesaurus in Pharmacology and another for Energy, are in preparation. These linguistic problems are studied in collaboration with specialised centres, and in taking international compatibility into account.

"Personalised" documentation has been extended in two fields. A new service for current literature delivered within twelve days from reception of the periodical, deals with Adverse drug reactions. Mechanisation of certain sections will, in 1971, enable us to increase such a service.

The Bibliographic Retrieval Service, which started to work in these few subjects stored on magnetic tape, can now provide bibliographies on any subject covered by Bulletin signalétique. At present they are carried out by traditional methods but, as information is gradually stored, both manual and automatic search, as foreseen in our machine programs, will replace these methods.

One of the main problems we worked on in 1970 is the improvement and testing of the different phases of processing and automatic typesetting carried on at the same time as our regular work.

Three requirements directed the preparation of our new work sheet.

1 - The provision of tags for all possible listing or processing (author, subject, affiliation, language, periodical, etc.)

2 - The possibility of either manual or automatic use. (On the one hand all sections will not be mechanised at the same time and on the other at least 10 % of all references appear in two or more section). This distribution of information to all possible users is of fundamental interest and is only possible economically in an encyclopaedic centre such as ours or in a network.

3 - The reduction of errors to a minimum by clear coding.

Two information systems were tested at the same time, both using the new work sheet. The first uses a Siemens 4004 35 at the Imprimerie Nationale, which processes, and produces, on the one hand storage on magnetic discs, and on the other a film to feed directly into the phototypesetting machine (Digiset Hell). The other system, using a Monotype keyboard, provides punched tape which is fed into a Monophoto composing machine and can also be converted to provide magnetic tape processed by IBM 360. Trials have been satisfactory in both cases, and the first sections to be handled according to these processes in 1971 are :

Section 330	Pharmacology
Section 780	Polymers
All sections	of Earth Sciences

Mechanisation will permit a wider range of use of a single work sheet and also reduce the time lag for abstract publication. At present publishing time is two and a half months and we hope to reduce this by at least a month.

An Information Service, was started in 1970 to gather, analyse and transmit information on users'needs. The first result of this study will be the publication of English content tables in all sections. (More than half our subscribers are from English speaking countries).

Modernisation of :

The Translation Service (which now provides oral translation either by telephone or on magnetic tape, register all translations produced in France and is responsible for the liaison with the European Translation Centre).

The Reproduction Service (which is developing the use of microfiche) now offers our readers the possibility of consulting documents in extenso, in the original or in translation, and in the best conditions.

The automation of the Library, which continues in parallel with that of Bulletin signalétique, is also an important tool in the "battle against the clock" which rages all along the documentary chain.

These multi-directional activities, although less spectacular than the creating of numerous new sections, seem to us the best way of ensuring a continuation and an improvement of what exists and of preparing the way for what we wish to establish. We have not confined this reflexion stage to our own activities and we have also taken an active part, with other members of ICSU AB, in the work of the Working Group on Bibliographic Descriptions, as well as in work in the field of scientific information carried on in the European Community.

3.3. IEE'S INFORMATION SERVICE IN PHYSICS, ELECTROTECHNOLOGY & CONTROL BACKGROUND, PRODUCTS AND FUTURE

by D.H. BARLOW
Director, INSPEC

In presenting to you the plans and policies of INSPEC and its international role in physics, electrotechnology and its allied subjects, computers and control, I feel both honoured and also a slight diffidence. As many of you know, it is only just over 12 weeks since I took over the chair as Director of INSPEC from my good friend Ron Smith.

To make a presentation on INSPEC, its background, present and future, could for me offer hostages to fortune. To such a gathering to dwell on background, there are many who will know it better than I ; to concentrate on the present has less of a danger ; while to describe new plans and forward policies is an area where I can feel quite secure.

So in this brief resumé of INSPEC and its ever-widening range of services, comprising abstracts and current-awareness journals in a variety of forms, and magnetic tape services, I will highlight the forward growth by which we are planning to serve the world's physics and electrotechnology

community. But first a quick look at some background - I won't take you through all the details - you will find these in the background notes that are available.

Background

Compared with the problems of covering today's literature in the physics and electrotechnology fields, it must have been idyllic in the early days of Science Abstracts. Imagine - in 1898/99 only a total of some 1000 abstracts were produced for the physics coverage and 1000 for the electrical field. But even in those days, Science Abstracts (now a part of the services collectively known as INSPEC) was serving the community internationally, not only by including abstracts from foreign journals - believe it or not, the first foreign abstract was the first abstract ever published (from Annalen der Physik und Chemie, 1897) - but also by publishing and distributing to a world audience in the physics and electrical fields.

Today we are maintaining this service in both areas of world coverage and world service. This year, we will be producing some 133,000 abstracts, made up as follows :

- in the physics field covering the world literature	76,000 abstracts
- in the electrical and electronics field	39,000
- in the newer area of computers and control applications	18,000
	133,000

In all, at the end of this year, we will have in machine form over 225,000 entries on magnetic tape that have been produced through the computer system, and are on the INSPEC data base. As for 1971, we aim to increase the throughput again by approximately 12 1/2 %. So we can justly claim the world's largest English-language data base in the physics and electrotechnology area.

You will note that I keep mentioning the other areas of our data base, in addition to the physics coverage. Although our membership within ICSU-AB at present is represented by Physics Abstracts, which has been elected the English-language international service in physics, we look forward, particularly if there are closer ties between ICSU-AB and WFEO, to including, if these are eligible, our other two services, Electrotechnology and Computers & Control. Hence, the broad overall picture that I am giving you.

As I mentioned earlier, our international service started early and now we are dispatching information products to 54 countries throughout the world. And this world distribution is increasing as our products reflect more and more the needs of the world's scientific community.

The Computer Data Base

To see why this is so, we must go back a few years to 1967, when the first decisions were taken after an extensive feasibility study to generate a data base as an integral part of a computer production system for the abstracts and current-awareness journals. The first phase of the development, financed through the generous support of the Office for Scientific and Technical Information (part of the Department of Education and Science) culminated in

late 1968 with a complete operational system for typesetting all our abstracts and current-awareness publications, and for generating tapes, selective dissemination and other by-products.

The services that we now have operational, and I must stress the world operational, are running on a day-in day-out basis, with items entering the data base at 420 a day. The services are :

Abstracts journals in :

- Physics
- Electrotechnology
- Computers & Control

Current-awareness journals ; by this we mean journals containing titles and references to all articles from the world's literature appearing in the following fields :

- Physics
- Electrotechnology
- Computers & Control

Selective Dissemination Service in three forms :

- Personal profile
- Group profile
- Topics (using standard profiles and providing hard copy backup)

These services are available in :

- Physics (1.1.71)
- Electronics (in operation)
- Computers & Control (1.1.71)

Magnetic Tape Services in two forms - with/without abstracts arranged in subsets of the data base.

When one looks at this development in a period of three years, it is impressive by any standard - but when one looks at the development costing involved, it is more than impressive - it is dramatic.

The total development cost over the three years 1967-70 to produce these operational services is £ 200,000 or, in dollars $ 500,000 (half a million dollars). What additional services and refinements one could have added if one had only had some of the fundings that have been made available on this side of the Atlantic !

New Services

Now with the basic development behind us, the next phase is to extend the services so that they reflect more and more the needs of the users. A very large proportion of our work in the next 18 months will be surveying our users, both in the States and in the rest of the world, to establish what shifts in products might be needed.

In the meanwhile, we shall be introducing, at the end of the year, subset versions of current titles papers which will probably be distributed free as part of an overall information package based on our abstracts journals.

Another new service will be index tapes specially designed for use with proprietary software retrieval packages, thus bringing the advantages of tape retrieval services within the range of the small member of the community.

A further service available in mid-1971, after the Topics SDI service has completed its first year of operation, will be cumulated bibliography sets for the year. And for the SDI subscriber who has been utilising the feedback portion of the service, the availability of a cumulation of just those items which his feedback indicated were relevant.

Finally, in the user field, experiments are being planned, based on the IEE Library and on-line terminals, to test user query needs in the physics and electrotechnology fields.

Another development worthy of mention will be the introduction of a satellite computer next year for on-line correction and editing. Eventually this will be physically linked to the main production machine housed at the Institution.

While the INSPEC data base is already extensive, plans are under way to expand this further towards other engineering areas, a move which could be a great significance in the light of the proposed ICSU link with WFEO.

The Subscriber Choices

All the operational and new services have only one objective - to serve the subscriber in just the way that suits him best. Here are just a few examples of what is available to him to satisfy particular needs :

Pure retrospective searching	Abstracts journals with detailed index sets. Machine IR and library searching.

Current awareness only	Current papers journals.
Specialised subject coverage for current awareness	Topics service (choice of 21 subjects, with hard-copy backup).
Specialised subject coverage with cumulations	Annual cumulations of Topics subjects.
Individual requirements	Selective Dissemination Service (personal or group profile) together with annual filtered cumulations.

On top of this must be added the operational magnetic tape services of INSPEC 1 and 2, together with the new index tape available next year. So all in all one can see that right now these services will satisfy the major needs of the physics and electrotechnology community. And the user studies planned across the board will ensure that any undiscovered needs are brought to light and the system modified to ensure that physicists, electronics and computer designers are served as well in the future as they are now.

The Classification

So far, I have not said anything about the classification and index developments that are under way. While classifications come and go, and indexing techniques enjoy various vogues, the INSPEC classification has proved itself capable of modification and change to reflect the new discoveries and emphases in various parts of the field. With thirty full-time experienced editors and a panel of 500 abstractors

processing the world's literature, the inbuilt feedback from this operation continually updates and modifies the classification structure to bring it into line with needs.

The present trend within INSPEC is towards unifying the classifications within the fields of physics, electrotechnology and computers and control. At the same time the first draft of a new unified subject-term index has been produced, embodying 3500 terms with permuted entries. This is now being entered on to machine files for use as an authority file for index preparation.

Links with the Community

As I have stressed throughout this talk, the INSPEC service relies for its continued success on the generating of links and co-operation with our user community.

We are forging new links with IPPS ; we welcome the ideas of closer co-operation with AIP ; we have active and co-operative arrangements with IEEE ; and on my visit last week to Moscow we were highly successful in generating co-operative arrangements with VINITI.

But, more than this, we aim as an important plank in our development to generate closer links with the individual physicists, engineers and research teams by the setting up of specialist INSPEC advisory panels. From these will come direct feedback on the value of the services we are providing. This is an activity that INSPEC has much experience in as the result of the two-year research programme with control groups and subscribers to assess the value of SDI.

At the other end of the scale, we shall be building up even closer relationships with international bodies such as IFAC, IFIPS and others. In this, ICSU-AB has a special place. We are honoured that one of the INSPEC services is accepted as the English-language international service for Physics ; we appreciate this honour and ICSU can be assured that we are keen - in fact eager - to co-operate in all its ventures which will help both ICSU and ourselves develop increasing feedback from the user to ensure that its Physics member service maintains that closeness we have always enjoyed with the world physics community.

3.4. PHYSIKALISCHE BERICHTE
PROGRESS REPORT

by V. WEIDEMANN
Editor in Chief, Physikalische Berichte

Physikalische Berichte has continued to grow steadily to an estimated 47 000 abstracts per annum in 1970. A pilot project has been carried out which will lead - starting next year - to fully mechanized production of the annual indexes by photocomposition from magnetic tape, including proof procedures and page make-up. Extension of the data base and photocomposition to include full bibliographic descriptions with a view to exchangeability with other services is in the planning stage, pending on the acceptance of standards (i.e. UNISIST, ISDS) and on the availability of personnel to carry out the necessary pilot projects. Cooperation with Physics Abstracts in the spirit of ICSU AB's Input-sharing plan shall be extended, with PB providing abstracts in English from selected German journals, and PA providing bibliographic data on certain UK fringe journals.

3.5. INTERNATIONAL UNION OF PURE AND APPLIED PHYSICS
REPORT ON THE ACTIVITIES OF THE PUBLICATION COMMISSION AFTER THE BASLE GENERAL ASSEMBLY IN SEPTEMBER 1966

by W. KOCH
IUPAP Representative on the ICSU AB
Director, A.I.P.

In the period 1966 - 1969 the Commission was composed as follows :

Full members

Dr. H.C. Wolfe (U.S.A.) Chairman
Miss Dr. A.C. Stickland (U.K.) Secretary
Mrs. Dr. R. Duval (France)
Prof. J. van den Handel (Netherlands)
Dr. S. Pasternak (U.S.A.)
Prof. D.I. Viskoboinik (U.S.S.R.)
Prof. T. Weyssenhoff (Poland)

Corresponding members

Prof. G.A. Boutry (France)
Prof. L. Villena (Spain)
Dr. H. Ebert (G.D.R.)
Prof. B.R. Coles (U.K.)
Prof. K. Kinosita (Japan)
Dr. M. Matyas (Czechoslovakia)

Sponsored and stimulated by Unesco and IUPAP a conference was organized of the Commission with Editors of Primary Journals at Unesco House in Paris in May 1967. The following points were among others on the agenda :

1) - New versions of the "Guide for the preparation of scientific papers for publication" and the "Guide for the preparation of author's abstracts for publication".
Some minor corrections were proposed.

2) - Organization of editors of primary journals.
The suggestion for the setting up of such an association was put forward by Unesco. For the moment it was thought that there was not a great necessity for such an association and that through our association there were possibilities for meetings if necessary.

3) - Newsletter.
The publication of a Newsletter was announced and editors are invited to send contributions. A wide circulation was intended.

4) - Standardization.
The attention was drawn to the SUN report.
Among other subjects the transliteration of cyrillic characters was discussed.

5) - Relationship of primary to secondary journals.
An early contact was advocated, if possible by sending page proofs.

6) - Prepints.
Some disadvantages of the development in this field were put forward.

The meetings of the commission took place, the first in 1967 in Paris after the meeting with the editors, the second in Leiden in 1969.

Some of the subjects that were discussed were : the News-Letter, the "Guides", the European Physical Society and some new techniques for printing, reproducing and storing. Some consequences of the increasing financial problems were discussed.

During the period between the two General Assemblies two issues of the News-Letter appeared as well as new editions of the Guides.

The commission regrets to have to report the death of its member Prof. Viskoboinik from the U.S.S.R.

After the General Assembly of the IUPAP in Dubrovnic the Commission has the following composition :

Full members	Corresponding members
Dr. H.C. Wolfe (U.S.A.) Chairman	Prof. K. Kinosita (Japan)
Prof. J. van den Handel, Secretary (Netherlands)	Dr. M. Matyas (Czechoslovakia)
Prof. J. Friedel (France)	Prof. L. Villens (Spain)
Dr. S. Pasternak (U.S.A.)	Dr. E. Bretnutz (D.D.R.)
Prof. J. Weyssenhoff (Poland)	Dr. P. Papali (Italy)
Prof. B.R. Coles (U.K.)	Mr. C.I. Pedersen (U.K.)
Dr. E.M. Lifshitz (U.S.S.R.)	

Report of the activities of the Publications Commission of the IUPAP in 1969

During the year under review one meeting was organised. The main agenda points for this meeting were :

1) - Information about the News-Letter.
Until the end of 1969 two issues appeared. They were given a broad distribution, especially to editors of journals. A list of editors, published in the first issue was considered to be very useful.

2) - Standardization of journal styling.
The distribution of new editions of the "Guides" is helpful in this respect.

3) - The European Physical Society.
This society has also a publications commission and it is the intention that a group of journals will be considered as "Europhysics journals". Our commission welcomes the E.P.S. and its publications commission and hopes for a close liaison with it through Professor B.R. Coles who is a member of both commissions.

4) - Among the other points the new techniques for printing, reproducing and storing (e.g. in computers) were discussed and the increasing financial problems, causing increases in subscription prices and further specialisation of the journals.
Preprint and offprint systems and services in the U.S. were mentioned as well as the difficulties in convincing authors to write good review articles, which are considered to be very useful.

After the General Assembly of the IUPAP in Dubrovnic, where the commission was represented by the chairman and the secretary (Dr. Wolfe and Dr. Stickland) the composition of the commission is as follows :

Full members

Dr. H.C. Wolfe (USA) Chairman
Prof. J. van den Handel, (Netherlands) Secretary
Prof. J. Friedel (France)
Dr. S. Pasternak (USA)
Prof. J. Weyssenhoff (Poland)
Prof. B.R. Coles (U.K.)
Dr. E.M. Lifshitz (USSR)

Corresponding members

Prof. K. Kinosita (Japan)
Dr. M. Matyas (Czechoslovakia)
Prof. L. Villena (Spain)
Dr. E. Bretnutz (D.D.R.)
Dr. P. Papali (Italy)
Mr. C.I. Pedersen (U.K.)

3.6. CHEMICAL ABSTRACTS SERVICE PRESENT AND FUTURE

by R.J. ROWLETT, Jr.
Editor, Chemical Abstracts Service
R.R. O'DETTE
Senior Staff Advisor, Chemical Abstracts Service

In welcoming the meeting attendees to Chemical Abstracts Service (CAS), Mr. Ralph E. O'Dette, Senior Staff Advisor, and Dr. Russell J. Rowlett, Jr., Editor, described the CAS computer-based processing system and plans for its extension.

Experimentation with computer techniques began at CAS over ten years ago, and the first computer-produced publication, Chemical Titles was issued in 1961.

The concept of the application of computers has gradually evolved and is now much broader in scope.

The system that CAS has designed and which is being incrementally developed and installed may be envisioned as consisting of three components, input, in-process data files, and output.

Intellectual analysis - preparation of abstracts and index entries - of selected primary literature, including journal articles, patents and conference proceedings, will be performed in one set of closely related steps. The results of analysis will be input to the computer in the form of data elements - defined units of information. At this point in the ultimate system design, the analyzed information is identified only by the content of the data which it contains ; the ultimate use of the data in a CAS publication or service and its formats are not included in these data elements.

For output, format programs define the content and appearance of a publication issue or the content and arrangement of a magnetic tape, and these programs extract pertinent data elements from the in-process data files. Output for publication is prepared by a computer-driven cathoderay photocomposing device.

Because of the large volume of information that must be processed daily by CAS and because of the dependence of the scientific community on the consistent regular appearance of CA, it has not been possible simply to design a new computer production system and to stop the traditional processing system while the new one is being installed. Instead, it has been necessary to gradually revise all CAS functions to adapt them to computer manipulation in order to best utilize the machine to support the CAS professional staff and to eliminate redundant effort wherever possible.

For this reason, it is necessary to view CAS today as an organization in transition. The application of computers to the entire CAS process in well advanced, but much remains to be done before the target system of 1975 is achieved.

At present, CAS is producing several specialized computer-based information services. These were developed as pilot plants, to gain experience with various techniques and to provide essential engineering data for the design of the processing system for all of Chemical Abstracts and its indexes. As such, each of the specialized services is the product of an essentially independent processing stream. Beginning in early 1971, these processing streams will be brought together in an implementation of the design concept of input/in-process data files/output described above.

As the special services are converted to the new processing system their computer-searchable versions will begin to appear in the new CAS Standard Distribution Format that is being adopted for all CAS machine-readable outputs.

CAS has already converted its semi-annual formula and author indexes to computer-driven photocomposition and the semi-annual subject index will be so produced by the end of 1970. This will mean that the major CA volume indexes will all be computer produced after original intellectual input.

The Eighth Collective Index to CA (1967-1971), covering an estimated 1,285,600 abstracts, will be published during 1972-1973, and will be completely computer-processed. It is estimated that as a printed publication, the Eighth Collective will occupy more than 74,300 pages in 41 volumes. Of interest to computer-oriented information users will be an estimated 67 reels of 2400-foot, nine-channel, 800 bpi magnetic tape.

Effective use of such a large file of computer-readable information presents a challenge to users, and it is expected that there will be intensive experimentation with the semi-annual volume indexes of six or seven reels of tape each before the Eighth Collective Appears. The CA Volume 71 (July-Dec. 1969) Subject Index is being computer produced and will be available in tape form in 1971.

As further integration of the CAS processing system continues and the literature of chemistry and chemical engineering continues to grow, estimates of the size of the indexes to cover the Ninth Collective Period, 1972-1976, make it clear that some index redesign is required. Preliminary estimates predict 110,700 pages in 62 volumes for the Ninth Collective. Published by traditional processes, such an index would not only be very unwieldy for CAS to produce and for subscribers to use, but it would require an excessively long production time after the index entries themselves were created and compiled.

Accordingly, a major effort is now being mounted by CAS to perfect the computer-based processing system through which the index pages will be prepared for printing while at the same time devising a new intellectual structure for the index contents. Chief among the many lines of study are a thorough analysis of the index vocabulary with a view to increasing its systematic character and a division of the subject index into a chemical substance index and a general subject index.

Decisions in these areas must be made before 1972 when the first abstracts for the Ninth Collective Period enter the CAS system.

3.7. CHEMIE-INFORMATION UND-DOKUMENTATION BERLIN
REPORT OF ACTIVITIES

by Ch. WEISKE
Editor in Chief, Chemie-Information
und Dokumentation Berlin

In Rome, I informed the Abstracting Board that Chemisches Zentralblatt will discontinue its publications at the end of 1969 for several reasons. At the same time I reported that the German Chemical Society will start publishing a new abstract journal in German. The new service is entitled "Chemischer Informationsdienst", i.e., Chemical Information Service which will cover in part A physical and inorganic chemistry and in part B organic chemistry of low molecular weight compounds. The articles chosen to be abstracted are selected from nearly 350 journals chosen by the advisory board of ChemInform, consisting of representatives from industry and academic institutions. The journals are listed in the booklet that I have distributed. In the weekly issues the abstracts are arranged according to our own classification system. In 1970 we intend to publish 15,000 abstracts in the physical-inorganic part and 20,000 abstracts in the organic chemistry part. The abstracts of part B will consist of textual material and structural formulas.

The structural diagrams are encoded according to the GREMAS system, a fragmentation code system. This information is transferred to the International Documentation for Chemistry (IDC) which stores it on magnetic tapes and thus makes it accessible for retrieval.

To coordinate the efforts in the field of information on a national basis a consortium of organizations dealing with information and documentation was constituted. As a result of this we now also cooperate with the "Verfahrentechnische Berichte", an abstracting journal covering literature of chemical engineering, as well as with the IDC.

In our office, named CHEMIE-INFORMATION UND-DOKUMENTATION BERLIN, programmers and scientists of our development division are engaged in testing the feasibility of our own and CAS tape services, especially CA Condensates, for SDI purposes. An important step towards an international system is an agreement between CAS and CHEMIE-INFORMATION UND-DOKUMENTATION BERLIN for cooperation on the input basis. The background of this agreement is to be found in the news release enclosed in the CAS material you received yesterday. About 10 scientists select, assign, abstract, keyword and edit a certain amount of German primary literature, journals and patents, and send the English abstracts and keywords to Columbus. If this pilot experiment operates satisfactorily it is intended to enlarge this group and extend the cooperation.

3.8. INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY
REPORT ON THE I.U.P.A.C.

by B. RIEGEL
I.U.P.A.C. Representative on the ICSU AB
President, ICSU AB

The official journal of IUPAC is Pure and Applied Chemistry which publishes the reports of the commissions, symposia and original articles. There are six large divisions of IUPAC ; Physical, Inorganic, Organic, Macromolecular, Analytical and Applied Chemistry Divisions. Each of the divisions have commissions on nomenclature or standards of measurements. The commission on atomic weights is the most famous. Another important commission is the one on physicochemical symbols, terminology and units. The reports of these commissions have had an international influence on standardizing the units, symbols, abbreviations and nomenclature of chemistry.

A new inter-divisional committee has been appointed to study the machine documentation of chemical information and methods for standardization.

The next conference (business meeting) of IUPAC will be held in Washington, D.C. (USA) 15-24 July 1971 and the next congress will be at Boston, Massachusetts (USA) 26-31 July 1971.

3.9. BIOLOGICAL ABSTRACTS

REPORT OF ACTIVITIES

by Ph. PARKINS
Director, BIOSIS (BioSciences Inf. Ser. of Biological Abstracts)

Before reporting on the current state of BIOSIS and on its services, I wish to remind you of the nature of the biological sciences and how this discipline differs somewhat from some of its sister scientific disciplines.

It has been aptly said that biology is a many splintered thing. Biologists, too, have reflected this in the nature of their many specialized research interests, reflected in their number and variety of professional societies. So far as I am aware, in no country of the world is there a single strong biological society which embraces all of the specialized interests of the biologists of that area. The full spectrum of the life sciences is impressive in its scope and is matched only by the depth of specialization in many or all of the various subfields. It is necessary to understand the nature of biology in order to respond effectively to the information needs of biologists, especially since the average biologist wishes only a small and well-defined fraction of the huge volume of information that is available. Thus, BIOSIS sees the need, for instance, to develop highly specialized information services aimed at matching the

research interests of either individual biologists or specialized user groups.

Published Services. In 1970, Biological Abstracts (BA) will include 140,000 abstracts. Four computer generated indexes accompany each issue : the Author Index, the Biosystematic (Taxonomic) Index, B.A.S.I.C. (Biological Abstracts Subjects in Context), and C.R.O.S.S. (Computer Rearrangement of Subject Specialties).

BioResearch Index extends BIOSIS coverage by providing access to more than 90,000 research papers, in addition to those which appear in Biological Abstracts. Indexes for both publications are cumulated annually.

Abstracts of Entomology, new in 1970, contains appropriate abstracts and references derived from those published in Biological Abstracts. Each issue is fully indexed and indexes are cumulated annually.

Abstracts of Mycology is a similar publication for its field, also fully indexed.

The entire collection of BA, comprising over two million abstracts, commencing with Volume I, 1927, through the current year is on 16 mm microfilm. Three issues of approximately 18,000 abstracts each are added at six-week intervals.

Magnetic Tape Services. BA Previews includes all of the references published monthly in Biological Abstracts and BioResearch Index : each reference on the tape includes the BA abstract of BIOI reference number, the full bibliographic description, as well as codes for subject headings in the

C.R.O.S.S. and Biosystematic Indexes. The tapes are 9 track 800 b.p.i., variable length record and variable block length with maximum block size limited to 3600 bytes. Tape records are IBM 360 compatible and are available to qualified users on a lease basis.

Search Services. Current Literature Alerting Search Service (C.L.A.S.S.) provides an SDI approach to current information included in Biological Abstracts and BioResearch Index. Printouts of the complete references and indexing terms for all pertinent entries in these publications are made available at two-week intervals.

Standard profiles are being developed for search on a less frequent basis to serve user groups having like specialized interests.

Retrospective Search Service is computer supported and based upon a ten-year Biological Abstracts machine-readable file, which contains almost 30 million entries providing access to nearly 1,500,000 articles.

Maintaining Liaison with Users. We recognize the tremendous importance of obtaining feedback from our users, evaluation of the effectiveness of our services and suggestions for new services or alterations in existing ones. We recognize also the need to keep our users informed of developments on the rapidly changing information front, new services available from BIOSIS and information as to how we believe these can be effectively used. In this connection we maintain a Professional Services and Education Department, whose

obligations involve meeting the scientists at their own conferences and congresses, holding exhibits, going into the libraries and laboratories of institutional subscribers to conduct seminars with scientists and librarians in attendance. We also welcome opportunities to entertain visitors in our Philadelphia offices, to learn of their special needs and problems, as well as to acquaint them with our thinking, our facilities and our operations.

3.IO. I.U.B.S.

REPORT ON THE INTERNATIONAL UNION OF BIOLOGICAL SCIENCES

by K. FAEGRI
IUBS Representative on the ICSU AB
Professor, University of Bergen

The activities of the International Union of Biological Sciences during the preceding year has not been much concerned with secondary information services. Traditionally, the primary literature in Biology is extremely varied, both in scientific and technical aspects, and an extraordinary percentage of the literature can be considered "fringe" or marginal. The necessity for some cleaning in what almost amounts to an Augian stable has long been obvious, and an organization of European Editors of Biological Periodicals was initiated some years ago, primarily on the pattern of the corresponding American Society. At its meeting in London in April this year, the organization adopted the acronym ELSE. European Life Sciences Editiors. In the absence of any general biological professional society (apart from the International Union of Biological Sciences) it is hoped that ELSE may after an unavoidable gestation period, play a certain role in the information field. ELSE has already instituted a Committee charged with the problem of

cooperation between primary and secondary sources of information. Unfortunately the problem of cooperation within the Union may prove to be considerably greater than that of external cooperation.

3.11. BIBLIOGRAPHIE DES SCIENCES DE LA TERRE
PROGRESS REPORT

by J. GRAVESTEIJN
Manager, Bibliographie des Sciences de la Terre.

The developments of Bibliographie des Sciences de la Terre (BST) during the last year can be described briefly as follows :

1) - Improvement of exhaustivity and service to users of BST.

The acquisition service of the Documentation Center of BRGM has pursued a dynamic policy in order to increase the exhaustivity of BST and to improve the rapidity of the access to primary publications for the users of the Index journal. The library of the BRGM receives at present over 1400 serial publications and the number of documents analysed for BST exceeded 30 000 in 1969, which represents an annual increase of about 10 %.

2) - Computer system.

In 1968 and 1969 the Index Journal was computer processed on a Bull Gamma 30. In 1969 it was decided to transfer it, in order to open the possibilities to further development, on a system based on a IBM 1130 terminal connected with a 360/40.

The operational editing of BST in the new system was planned for the first half of 1970 and experiments in SDI and bibliographic searches should start at the end of 1970.

Technical problems and shortage of specialists forced us to delay the production of BST on the IBM system until October of this year.

The nex output system will enable BST to print the usual indexes, to add abstracts for some selected fields and to improve the printing of the issues.

3) - Special information services.

3-1 : Bibliography of French geology

Increasing information needs of the French Geological Survey led the Documentation center of BRGM to start a new information operation : Bibliography of French geology, an index to all the literature concerning regional geology in France. The material will be analysed back to the very first sources of French and foreign literature. The special character of the earth sciences lengthens the lifetime of regional papers considerably and even a document containing geological data of a century ago is still worth being consulted.

This computer-stored file will contain more than 60 000 references in machine - readable form.

This special bibliography will be available in the beginning of 1972.

3-2 : Internal reports.

For the same reasons of information needs the whole stock of BRGM internal reports is to be indexed and stored within the computer.

Until 1969 a current list of references was provided every six months. Since last year this list and indexes are computer processed and two four-year cumulative indexes have been prepared.

4) - National and international cooperation.

On the national scale the cooperation between BST and Bulletin Signaletique has been intensified as far as earth sciences are concerned.

For 1971, a common edition of BST and the earth sciences sections of BS is planned. This decision meets the recommendation of the ICSU-AB formulated in Goslar.

Internationally, a new contract has been concluded with Geofond in Prague for the analysis of Czechoslovakian literature.

A good cooperation with BfB in Hanover led to an agreement on indexing and retrieval experiments on a bilingual basis. These studies will be of great interest for the ICSU-AB Working Group on multilingual thesauri, to which the results will be communicated.

3.12. AMERICAN GEOLOGICAL INSTITUTE
REPORT OF ACTIVITIES

by J.J. LLOYD
Director of Science Information,
American Geological Institute

The AGI Committee on Geoscience Information is concerned with the problems confronting our community and is seeking improved methods to solve them through the updating of the classical media for information exchange or through employment of new methods introduced by electronic data processing. Our attention has been addressed, not only to bibliographic recording of the geological literature, but to the economics and methodologies of the primary journals, to the structure of formal meetings, to the standardization of computerized data imput, to the library networks, to the publication of glossaries and thesauri, to the inventory of type collections largely unknown to the concerned scientists, and to a variety of similar and related problems.

In the area of abstracting and indexing we have this year denominated our computerized file of bibliographic data as GEO-REF and have reshaped it to serve the geoscience community in many directions. Our annual input to magnetic tape is now over 75 % of the significant current contributions to the literature and should reach 100 % in a short time. We are concerned with the recapture of the "backlog" of bibliographic citations that have either appeared in print prior to the introduction of EDP methods, or have never been cited in secondary format. Our concern is motivated by the long half-life value of geoscience literature that probably exceeds that of the other sciences. References to new research commonly cites the literature of fifty, a hundred, and more years ago. The good field observations of the 19th Century have the validity today that they had yesterday and their recognizance can save years of repetitive exploration and research.

The GEO-REF file is now being drawn upon as the source of the Bibliography and Index of Geology being published by the Geological Society of America. Special bibliographies can be extracted from the file as topical or mission subsets for repackaging as recommended by the SATCOM Report. Thus we have drawn a special Bibliography of Coal Resources in Kentucky from the tapes which will be published and released this year by the State Geological Survey of Kentucky. We have been requested to prepare bibliographies for six more State surveys and have had inquiries from many others. The GSA has requested the formulation of a Bibliography of Global Tectonics to be released as a special publication.

We are producing the photo-composed pages of the annual index for six primary journals in Geology (GSA Bulletin, three sections of the Journal of Geophysical Research, the American Mineralogist, and the Canadian Journal of Earth Science). To these we may add the Journal of Sedimentary Petrology, the American Journal of Science, and the American Geophysical Union's translation journals, in the coming year. We have also prepared a ten year cumulative index of the GSA Bulletin covering the period of 1960-1969. This will be published before the end of 1970. Our interest in the indexing project, in addition to the service to the community, is in the standardization of indexing forms and language that can be introduced in this way.

We have announced the availability of a retrospective search service utilizing the GEO-REF files and the queries we receive are building towards a major service. Major users of the search capability are in industry and the university research community.

ASCII (American Standard Code for Information Interchange) format tapes of the GEO-REF files are available for sale to libraries and institutions with computer facilities.

3.13. INTERNATIONAL UNION OF GEOLOGICAL SCIENCES

REPORT FROM I.U.G.S.

by L. DELBOS
I.U.G.S. Representative on the Board

A meeting of the Documentation Committee of the IUGS was held in Paris on April 20 - 21st 1970 on the initiative of Dr. Van der Heide, Chairman. Representatives of Belgium, Netherlands, West Germany, Czechoslovakia, United Kingdom and France were present.

Structure of the Committee :

Because of his appointment as General Secretary of the Union, Dr. Van der Heide resigned from the Committee.

The Committee endorsed the nomination of the new members of the Committee and discussed the new structure that will include :

An Executive Board : L. DELBOS (France), chairman, W.P. van LECKWIJCK (Belgium), Mrs. M. OKKO (Finland), A. WATZNAUER (East Germany), R.E. HOWIE (U.K.).

An Automation Board : J. HRUSKA (Czechoslovakia), chairman, H. GLASHOF (West Germany), J. J. LLOYD (U.S.A.), J. GRAVESTEIJN (France), A. HUBAUX (Belgium).

Regional Members : one member for each continent or region.

The Committee and especially the Automation Board will promote contacts between existing documentation centers in the field of Earth Sciences, in order to co-ordinate the work done in these centers, especially AGI-BRGM-BfB (Hanover) - Geofond (documentation center of the Geological Survey of Czechoslovakia) and VINITI.

The activities of ICSU-AB in this field have been reported by Dr. DELBOS and the members of the Documentation Committee stressed unanimously the importance of cooperation with the ICSU-AB and especially with the Working Group concerned with Earth Sciences Thesaurus and the Working Group on classifications.

The multilingual thesaurus that is now beeing studied should be presented at the next International Geological Congress to be held in Montreal in 1972. At present, the B.R.G.M. thesaurus has been translated into German by Dr. GLASHOFF, and an indexing test is planned to be started in next September.

Reviews :

The promotion of preparation of reviews has been for several years the principal activity of the Committee and this task will be continued and intensified.

Commissions and Committees of the Union and of affiliated Associations will be asked to establish small Working Groups which will explore the need of review articles in their special field and try to find authors who are willing to write such reviews on behalf of the Documentation Committee. Different authors for one review should be selected, preferably on a regional basis (East Europe - West Europe, America - Asia for example).

Some of the Reviews have already been published on the occsaions of some IUGS colloquia (stratigraphy of Gondwana, for example).

The Committee stressed the importance of very close contacts with the IUGS "Committee on storage, automatic processing and retrieval of Geological Data (COGEODATA)" and with the IMA (International Mineralogical Association).

These organizations are represented on the Documentation Committee.

3.14. INTERNATIONAL UNION OF CRYSTALLOGRAPHY

RECENT DEVELOPMENTS IN THE INFORMATION SERVICES OF THE I.U.Cr

by A.J.C. WILSON
IUCr Representative on the Board
Professor, University of Birmingham

The International Union of Crystallography fully controls several publications that can be regarded as providing information services. These are :

(i) - the primary publications Acta Crystallographica and the Journal of Applied Crystallography ;

(ii) - the secondary publications Structure Reports and the new series Molecular Structures and Dimensions ;

(iii) - the tertiary publication International Tables for X-ray Crystallography ;

(iv) - the World Directory of Crystallographers ; and

(v) - various occasional publications (book lists, bibliographies of topical interest, film lists, guides to computer programs).

The roles of Acta Crystallographica, Structure Reports, and the International Tables for X-ray Crystallography are well known and have been fully described (Wilson 1962 a, b). This summary will thus concentrate on the newer publications and more specifically on their information aspects, though recent developments among the older ones are mentioned briefly.

Acta Crystallographica was founded in 1948, and was intended to provide a place for publication of papers in all branches of crystallography and related fields. In practice it gained the reputation for concentrating largely on structural crystallography and neglecting the more physical problems and instrumentation. This was not deliberate editorial policy, and since 1968 Acta has been published in two sections : A contains papers on crystal physics, diffraction, theoretical and general crystallography ; B papers on structural crystallography and crystal chemistry. There has been a marked increase in the number of physical papers since the division.

The Journal of Applied Crystallography was established in 1968 also, to form a medium for the publication of papers of a less austere and more practical character than those appropriate for Acta Crystallographica. Its specific interest for information services lies in the section 'Crystal Data'. This provides for the rapid publication of powder diffraction data for identification, and also of cell dimensions, space group and other information falling short of structure determination. Full structure determinations, of course, are the province of Acta Crystallographica, section B.

The swelling flood of structure determinations has led recently to certain changes of practice in Structure Reports. In the past its yearly volumes have given critical reports of all kinds of crystallographically relevant material published during the year under review. For the years 1963-1965, however, critical reports will be given only for those structures for which all atomic positions and parameters are given. Other data, such as lattice parameters and space groups, will be collected in summary tables instead of receiving critical treatment in individual reports. From 1966 onwards these incidental data will be dropped entirely, as it is expected that they will be adequately covered by successive volumes of the series Crystal Data (edited by J.D.H. and G. Donnay, and not to be confused with the section of the Journal of Applied Crystallography having the same name). Structure Reports will thus contain only critical reports of proper structure determinations. On this basis it will be possible to continue to produce Structure Reports as a single yearly volume despite the increased amount of data to be comprehended. In a move to achieve better currency of the volumes, a start was made with the preparation of the 1970 volume on the arrival of the first journals in 1970, and it is intended to have the volume in print before the end of 1971. This method of production will continue as the volumes for past years up to 1970 are caught up.

Molecular Structures and Dimensions is a new series of publications, started in collaboration with the Crystallographic Data Centre, University of Cambridge. The aim of the series is to facilitate better utilization of the results of crystallographic and related investigations, and should interest scientists working in all areas in which structural properties are of interest, including chemistry,

biochemistry and molecular biology as well as crystallography. The first two volumes are classified bibliographies and are expected to appear in August 1970. The first is General Organic Crystal Structures and the second is Complexes and Organometallic Structures. The entries are arranged in eighty-six chemical classes with detailed cross-references, and are based on approximately 4500 publications in 150 journals during the years 1931-1969. The general editors are Olga Kennard and David G. Watson : magnetic tape and computerized type-setting equipment have been used, and the author, formula, and metal indexes are computer-prepared. Annual supplements with cumulative indexes are planned, and coverage is being extended to gas-phase electron diffraction. The third volume, for 1969-1970, is in preparation. The data will be available on magnetic tape as well as in book form.

The Commission on the International Tables for X-ray Crystallography has a fourth volume in an advanced state, to supplement the mathematical, physical and chemical tables of the present volumes II and III. An entirely new set of International Crystallographic Tables is being prepared in an ingenious fashion, a preliminary pilot edition having been circulated to many laboratories throughout the world for use, criticism and evaluation. When this evaluation has been completed the Commission will produce a series on symmetry, probably in six volumes, incorporating both revised material from the present volume I and new material on generalized symmetry and physical properties in symmetric media.

The fourth edition of the World Directory of Crystallographers is in course of compilation. It is expected to contain names, addresses and brief details of approximately 7000 scientists (of whatever background) with a present interest in crystallography. The third edition contained about 5000 names, and the second 3500.

My thanks are due to the Editors and the Chairmen of the Commissions who have provided information for the above account. Any errors or misconceptions are my responsibility.

References

A.J.C. Wilson, 1962 a. The International Union of Crystallography and the Documentation of Scientific Information. ICSU Review, 4, 123-126.

A.J.C. Wilson, 1962 b. The International Union of Crystallography and the Documentation of Scientific Information. Pp. 55-61 in 'Scientific Information in the Fields of Crystallography and Solid-State Physics', edited by T. Watanabé and Y. Takéuchi. Tokyo ? : The Crystallographic Society of Japan.

3.15. ZENTRALBLATT FÜR MATHEMATIK
RECENT DEVELOPMENTS

by U. GÜNTZER
Editor in Chief, Zentralblatt für Mathematik.

Rather than reporting in detail about the activities of the Zentralblatt für Mathematik during the last year, I should like to describe a recent innovation, which might be of interest to this assembly particularly as regards co-operation with primary publications.

Over a year ago Zentralblatt für Mathematik started to publish author abstracts instead of reviews. In many cases these abstracts are solicited before the publication of the complete paper. The procedure is as follows : Upon the acceptance of a paper, the editor of a primary journal co-operating with this scheme invites the author to send an abstract to Zentralblatt für Mathematik, for publication within ten weeks. These abstracts normally appear well before the complete paper, so it is not generally feasible to give the complete bibliographical data of the original at that time ; these are given in the Zentralblatt für Mathematik later on, together with a reference to the abstract published previously - This procedure has the official support of the International Mathematical Union

and of a steadily increasing number of editors of core journals in mathematics. Obviously, the fact that a paper goes through the system twice, first after receipt of the abstract, and later after receipt of the original article, causes a slight increase in size and also some problems of checking. But the mathematical community apparently thinks the remarkable improvement in speed is worth the effort -

3.16. ASTRONOMY AND ASTROPHYSICS ABSTRACTS
REPORT OF ACTIVITIES

by F. HENN
Editor in Chief, Astronomy and Astrophysics Abstracts.

At the Rome meeting of the ICSU Abstracting Board Professor Fricke presented a report on the reorganization of our astronomical abstracting service, which, from 1969 onwards, is published under the title "Astronomy and Astrophysics Abstracts". Professor Fricke who is unable to attend this Assembly at Columbus has asked me to convey his best wishes for the success of this meeting.

"Astronomy and Astrophysics Abstracts" is devoted to the recording, summarizing and indexing of astronomical literature throughout the world. It appears in semi-annual volumes, each volume containing about 5000 to 6000 abstracts. For 1969 two volumes, comprising about 11000 abstracts have been completed. They contain the whole astronomical and astrophysical literature that appeared in 1969 and became available to us. Among 700 periodicals which were searched, there are about 15 percent which are not mainly astronomical but journals of neighbor fields like physics, including geophysics, applied mathematics, and space research.

The division of the material in 107 subject categories has proved to be very satisfactory. We are convinced that this division is for the benefit of the user ; for instance there are 283 papers on the moon as one block in the volume ; there are about 200 papers on meteorites and meteorite craters in one category, and 234 papers on radio sources, quasars and pulsars also in one subject category. We faced the problem that change of interest in certain research fields, in particular the discovery of new astronomical objects, may lead to the introduction of new subject categories. As an example I may mention that we have even for a single object, namely the Crab nebula, formed a new subject category.

We have had good results with compiling of indexes by means of an electronic computer. We think that it is sufficient for all purposes in astronomy to have the indexes on magnetic tape and that it is not yet necessary to take the whole abstract on tape.

A word may be said on the average time interval between the receipt of the original literature and the publication of the abstracts. This time interval does not exceed eight months in "Astronomy and Astrophysics Abstracts". We are sure that this time interval cannot be made smaller as long as we want to accumulate abstracts for a period of six months in one publication. This accumulation offers the advantage of more convenience for the user. We are of the opinion that there seems to be no need for a current awareness service for the whole field of astronomy. Such services may however be extremely useful for special fields as astronomy, and it is certainly not unusual if we suggest that a current awareness service, say on cosmic radio sources or on the moon may be made with little effort by experts in these fields.

Astronomy and Astrophysics Abstracts is compiled by a very small group of persons. We are five astronomers working at AAA, but some of us are doing the work part time while we are mainly engaged in other astronomical work. There is a translator for Russian and there are only two girls in the editorial office for typing and other technical work. Under these circumstances it has sometimes not been easy for us to contribute effectively to the work of the ICSU-AB. This, however, does not mean that we were not sufficiently interested in the work of the Board. May I assure you that we are willing to collaborate with all members of the Board to our best of our ability and to do our share in joint obligations.

3.17. INTERNATIONAL ASTRONOMICAL UNION
REPORT OF ACTIVITIES

by J.B. SYKES
President, IAU Commission for Documentation
IAU Representative on the Board

Dr Sykes reported on the successful microfilming of the Bibliography of Astronomy 1881-1898, which has thus been made more widely available in an economic manner. Previously it existed only as a single copy held at one observatory.

He announced that the Union's XIV General Assembly would be held in a month's time and that he would act as the ICSU AB representative there.

S E S S I O N 4 :

REPORTS FROM ASSOCIATE MEMBERS OF THE ICSU AB AND OBSERVERS

Chairman : B. RIEGEL

4.1. ASSOCIATE MEMBER :

NATIONAL FEDERATION OF SCIENCE ABSTRACTING AND INDEXING SERVICES

by S. KEENAN
Executive Director, NFSAIS

Historical Information

At an informal meeting on December 9, 1957, representatives of abstracting and indexing services in different fields of science and technology agreed to hold a Conference to consider common operating problems and the possibilities of cooperation and coordination. On January 31, 1958, the Conference delegates, impressed by the advantages of continuing the work initiated at these meetings, established by unanimous action the National Federation of Science Abstracting and Indexing Services. In April, 1958, the Federation was incorporated as a not-for-profit organization in the District of Columbia. Headquarters were established in Washington, D.C. and moved to the present address in Philadelphia, December 1967.

During the first ten years of operation the Federation published a guide to abstracting and indexing services in the United States and this was updated in 1963 by a World Guide to Abstracting and Indexing Services in Science and Technology. Under a grant from the National Science Foundation the Federation was able to acquire and disseminate Mainland Chinese journals in science and technology to member services during 1965 and 1966. A publication - Science Periodicals from Mainland China was issued quarterly during these years to announce the availability of this material to other organizations in the United States.

The editorial and production aspects of abstracting and indexing services were explored and resulted in the publication of MAMMAX (MAchine Made and Machine Aided indeXes) in 1967. This publication consisted of a series of sample index pages produced by member services. A study was conducted by Heller and Associates in 1962 which led to the publication of a National Plan for Science Abstracting and Indexing Services in 1963.

Bylaw Revision

The Bylaws have been completely revised over the past year and were finally approved at the Annual Membership Meeting held in Boston, March 1970. The revised Bylaws have provided for two classes of membership - Voting Membership and Affiliate Membership. The membership criteria has been broadened and this should lead to an increase in membership in the future.

Publication Program

A Newsletter has been issued regularly since the Federation was established in 1958. This Newsletter became a regular bi-monthly publication in June, 1968, and contains news of interest to abstracting and indexing services throughout the world. Many of the news items are specially written for the Newsletter. A series of Technical Reports on topics of interest to members are also issued. The first report in this series provided detailed descriptions of member services. A Federation position statement on the National Academy of Science / National Academy of Engineering SATCOM Report has also appeared. Other reports are in press at this time. The Newsletter and the Technical Reports have been combined to form the Federation's Publication Program which is available on subscription. Copies are distributed free to member services. Also all member services of the Abstracting Board have been placed on the free distribution list.

Abstracting and Indexing Services Guide

The World Guide to Abstracting and Indexing Services in Science and Technology which was published by the Federation in 1963 has already been mentioned. The Federation has been cooperating with the Federation for International Documentation (FID) since January 1970 on the joint marketing of the FID's two volume guide to abstracting services in science, technology, social science and the humanities which was published in December, 1969. The two Federations are actively planning the development of machine readable inventory of information on abstracting and indexing services which will be developed as a cooperative project.

Education Program

Two Seminars have been developed by the Federation as part of a continuing education program. A three day seminar on indexing deals with this subject from a perspective viewpoint. The topics covered are vocubulary development, thesaurus maintainance, index systems, and retrieval methods. The use of computer based services is covered in second seminar series that explores the scope of available services, cost considerations, technology requirements, bibliographic and machine standardization problems, and S.D.I. (Selective Dissemination of Information) services currently being provided in a variety of environments. This is also a three day seminar. Both Seminars involve several case histories and the Federation draws on member service staffs and on non-member experts as lecturers.

Communication Forum

One of the chief advantages of the Federation that is often cited by the members is the opportunity it provides for an exchange of ideas on areas of mutual concern to members. The Annual Conference brings together the staffs of member services and other people in the United States concerned with information problems. A highlight of this Conference is the Miles Conrad Memorial Lecture which is given in honor of the first President of the Federation by a recognized authority in the field. Prof. Robert M. Hayes of the University of California at Los Angeles was the recipient of the 1970 Memorial Lecture award and his topic was the changing roles of information services. Also included on the program for the 1970 Conference which was held in Boston, Mass., in March, were Mdme. Jeanne Poyen who described the work of ICSU/AB and Scott Adams who discussed the status of the UNISIST Study.

In addition to the Annual Conference, member service staffs meet to discuss areas of interest in Working Group sessions that hold regular meetings throughout the year. The two most active Groups during the past year were the Working Group on Marketing and the Working Group on Abstracts. The latter has been credited as acting as a second sub-committee in the development of the Standard for Abstracts currently being processed through the American National Standards Institute.

Standardization Activities

In addition to work on the Abstracts Standard, the Federation has had an active Committee concerned with bibliographic standardization. This Committee has been particularly concerned with problems of data element definition for serial and non-serial publications. Every effort has been made to prevent duplication of effort with the UNISIST/ICSU-AB Working Group on Bibliographic Descriptions. This Committee has been replaced with a new Committee on Common Practices and Standards that should provide leadership for Federation member services in the area of standardization in the future.

Representation

The Federation is represented on the Z-39 Committee of the American National Standards Institute. Liaison is maintained with the American Association for the Advancement of Science, Section T, American Society for Information Science, Association for Scientific Information Dissemination of Information Services and other organizations with related interests.

4.2. O B S E R V E R S

4.2.1. UNESCO

UNESCO'S ACTIVITY IN DOCUMENTATION IN 1969*

by A. WYSOCKI
Director, UNESCO Department of Documentation and Scientific Information

* (The full information on Unesco's activity in 1969 is published in the "Report of the Director General on the activities of the organization in 1969" UNESCO 1970)

It is impossible in the few minutes reserved for this point to review the whole Unesco programme in documentation and scientific information. Therefore, my report includes information on some of Unesco's activities in the field of scientific information and documentation realised in 1969 in the following sectors : Natural Sciences, Education, Social Sciences, and Communication. These activities were co-ordinated by the Interdepartmental Committee on Documentation.

In Natural Sciences the principle item of the programme in the field of scientific information was the continuation of the joint ICSU/Unesco project on the feasibility of a World Science Information System (UNISIST).

This system is conceived as a flexible international network interpreted on a voluntary basis. The system will cover the natural sciences both basic and applied with later extension to other fields of knowledge.

Its conclusions which are now being put into final shape, are definitely positive. Such a system will represent a considerable contribution to the universalization and the mobility of scientific knowledge, which is the basis both of a rational progress of science and of the furtherance of the unity of mankind. Just as the participation of Member States in this system opens up the prospect of a systematic strengthening of their intellectual infrastructures, so assistance in the establishment of national teaching and research institutions aims at the strengthening of the material infrastructures, while the strengthening of the institutional infrastructures is the concern of the science policy program.

The UNISIST report and synopsis was completed and approved by the Executive Committee in its 4th session in May for publication. Dr. Scott Adams will give more information on this project.

Parallel to the UNISIST activitity in order to promote the normalization of scientific and technical terminology and in order to improve primary and secondary scientific publications, financial and technical assistance was extended to various organizations for the purpose of :

a) - continuing the work of two clearinghouses for scientific and technical classifications schedules, key-words, descriptor lists, and thesauri :one at the Western Reserve University's Bibliographic Systems Centre in Cleveland, Ohio for the English Language, and the other for non-english languages at Ciinte, Warsaw, Poland, where the first "Bibliographic bulletin of the clearinghouse at Ciinte" was published in 1969 and the supplement in 1970.

b) - Assistance was provided for the creation of an Information Service on Arabic Scientific Translations in Cairo and for the preparation of the meetings in 1970 for the establisment of European Associations of Editors of Periodicals in Chemistry, Physics and Technology.

c) - We have also continued the cooperation and financial support to the ICSU/Abstracting Board towards the development, coordination and improvement of secondary journals in natural sciences ;

A contract was concluded with FID in cooperation with NFAIS to complete an "International directory of abstracting services in science and technology".

Finally, we provided financial assistance for compiling the lists of scientific periodicals published in Africa and in East Asia.

The following publications appeared in 1969 and 1970 :

- Second edition of the "List of annual reviews of progress in science and technology" ;
- "World Guide to technical information & documentation services.
- Fifth edition of the "Bibliography of interlingual scientific and technical dictionaries".
- "Guidelines for the establishment and development of monolingual scientific and technical thesauri for information retrieval" and the draft of such guidelines of multilingual thesauri was also completed.

In Unesco's Education Sector the collection and dissemination of educational information, particularly that of a comparative nature, have been largely maintained through the various publications and periodicals which are a continuing activity of the Education Sector. Wherever possible these activities have been coordinated with the programme for the International Education Year.

The "Unesco Cooperative Education Abstracting Service" (CEAS) was further developed. An increased number of abstracts was distributed and the geographical representation of the contibuting agencies in Member States broadened. Work has continued on the key-wording and a thesaurus has been compiled with the object of ensuring efficient machine storage and retrieval. Close cooperation has been maintained with several organizations engaged in parallel activities. The second volume of the International Guide to Educational Documentation in a trilingual form has been published.

In the field of Social Sciences the Social Science Documentation Centre continued to gather an analyse specialised documentary materials of interest to Unesco's social science programme and servicing the documentation needs of members of the Secretariat and field experts, National Commissions, Government Groups, and national and international research, training and documentation centres.

The manuscript of up-to-date entries in the synoptic card index of national and international organizations engaged in research, teaching and documentation in the social sciences was prepared for printing in 1970. This material will be distributed as a special supplement to the "International Social Science Journal".

The Spanish Dictionary of Social Science Terminology has been completed and a Participation programme grant has been made for the editing and publication of the text. Another Participation programme grant was made for the publication of the Arab Social Science Dictionary.

The International Committee for Social Science Documentation continued to publish, with Unesco's financial assistance, four volumes of the "International bibliography of the social sciences" covering sociology, economics, political science, and social and cultural anthropology.

The "International Political Science Abstracts" a quarterly being prepared by the International Political Science Association in cooperation with the International Committee for Social Science Documentation, continued to appear with financial aid from Unesco.

The "Guide pour l'établissement de centres nationaux de documentation en sciences sociales dans les pays en voie de développement" appeared in the series "Reports and Papers in the Social Sciences" (in French only).

The documentation activities in the Communication Sector were conducted by the Department for Documentation, Libraries and Archives. Within the framework of these activities, the International Advisory Committee on Documentation, Libraries and Archives held its second session at Headquarters from 19-22 August 1969. The Committee made a series of recommendations to the Director-General on Unesco's current and future programme for documentation, libraries and archives, and particularly as regards the development of library, documentation and archive services in Member States, the development and unification of an integrated documentation, library and archive service within Unesco, the application of computers for

information handling, the support of research and training in documentation.

Among the studies completed in 1969 and 1970 were the following : Guide for an introductory course on documentation ; Guide for the training of documentation users ; International standardisation of library and documentation techniques ; Manual on the application of mechanisation to documentation and library work ; Determination of library standards ; National bibliographies of French speaking African countries ; Study on the application of mechanised methods in archives ; Manual on archival legislation ; Programme for professional training of archivists.

The following studies were started in 1969 : Mechanisation of a mediumsized documentation and library centre in a selected country. National structures for documentation and library services in countries having different levels of development ; Study on the function of archives and records management in public administration and planning policy in developing countries ; Manual on the preservation and restoration of archives ; Application of mechanised methods for the dissemination of Unesco reports and documents.

A regional documentation training course was held, in cooperation with the Friedrich-Naumann Foundation, at the East African School of Librarianship, Makerere College, Kampala, Uganda, from 1 September to 30 November.

Six issues of Vol. XXIII of the "Unesco bulletin for libraries" containing original articles and information on matters concerning libraries, bibliography, documentation and archives appeared in 1969, in English, French, Russian and Spanish.

The bulletin "Bibliography, documentation, terminology", continuing short notes on the most important activities relating to documentation in education, sciences, culture and communication, continued to appear every two months in English, French, Russian and Spanish editions.

Subventions were granted to three international non-governmental organizations : International Council of Archives (ICA), International Federation for Documentation (FID), International Federation of Library Associations (IFLA).

A number of expert missions financed under the Participation programme and concerned with the national planning of documentation and library services, the development of archives services, the planning of library buildings and the training of such services were completed during 1969.

Also under the participation programme, fellowships were awarded for study in the fields of librarianship, documentation and archives.

In accordance with the approved programme, expert missions under the Technical Assistance Country programme have been completed or were in progress during 1969 in the development of national, university and school libraries, the planning of library buildings, and in scientific and technical documentation.

Under the same programme fellowships, books and equipement have been provided to the member states.

4.2.2. UNISIST

UNISIST STATUS REPORT

by Sc. ADAMS
ICSU Special Assistant for UNISIST

My report has three divisions :

1. - Information about the origin and background of the joint ICSU/UNESCO feasibility study of a world science information system (UNISIST). This is for the benefit of those who may not have been in attendance last year when I gave a similar report.

2. - Information about the present status and immediate future of UNISIST.

3. - A brief discussion of some of the ICSU-AB UNISIST relationships as I see them.

In 1966, the President of ICSU proposed to the Director General of UNESCO that the two organizations jointly study the feasibility of a world science information system. This phrase needs some interpretation. A Working Party meeting in January, 1967 to establish the guidelines for the study

defined any "system" to be considered by the feasibility study in terms of a flexible network based on the voluntary cooperation of existing and future information services. This guideline has been respected during the course of the study. Furthermore, feasibility was understood to mean political and economic feasibility rather than technical feasibility.

A central Committee was established under the chairmanship of Professor Harrison Brown, Vice-President of ICSU. The Central Committee created a number of Working Groups, of which the most germane to ICSU/AB is the joint UNISIST-ICSU/AB Working Group on Bibliographic Descriptions, and an Advisory Panel composed of representatives of large operating services several of which (BIOSIS, Physics Abstracts) are also member services of ICSU/AB. In addition, the Central Committee commissioned contract studies, one with the Association of Special Libraries and Information Bureaux (ASLIB) on comparative classification systems in the sciences, and another with INSPEC on the feasibility of an international register in machine readable form of scientific journal titles, about which you have heard today.

The Central Committee also commissioned Prof. J. C. Gardin of CNRS to draft a report of the study. This draft has been completed, revised after Central Committee review and is now being prepared for publication. In addition, I have prepared a synopsis or shorter version of the report's recommendations, and there will be a formal report of the Central Committee to the heads of the two sponsoring agencies.

Subject to the approval of the General Conference of Unesco this fall, the Director General of Unesco intends to convene an Intergovernmental Conference to consider the recommendations of the Study Report. This Conference will take place

in Paris in October, 1971. The Officers of ICSU, each of the ICSU unions and committees, and the ICSU Abstracting Board will all be invited to send observers to the Intergovernmental Conference. It is expected that the Conference, after reviewing the recommendations in full detail, will make recommendations to the Director General of Unesco relating to their implementation.

In the meantime, neither ICSU nor Unesco intends to loose the momentum which has been gained during the three years of the feasibility study. For example, the program proposals of UNISIST-ICSU/AB Working Group on Bibliographic Descriptions cannot be ignored although it is probable that not all of them can be funded. Again, there are strong incentives to move ahead with the establishment of an International Serials Data System. Such activities cannot and should not wait until after the holding of the Intergovernmental Conference.

There are 21 recommendations in the Study Report which have to do with potential programs ; a 22nd recommendation proposes the establishment of an Executive Office within the Science Sector of Unesco. The 21 recommendations are organized in five groups. Group one contains 6 recommendations, calling for the development of tools for systems interconnection. This is the group that contains a concentration of recommendations of concern to the ICSU/AB member services. For example, recommendation 2 calls for the development of the International Serials Data System, previously referred to. You have heard how the UNISIST-ICSU/AB Working Group on Bibliographic Descriptions has already endorsed the study.

Recommendation 3 relates to standardization of elements of bibliographic description, an area of activity in which the ICSU member services will be playing a central role. Recommendation 4 calls for a renewed attack on the problems of subject specification in the sciences, certainly a matter of professional concern and activity for the ICSU/AB member services. Recommendation 5 concentrates on resolving some of the problems of incompatibility among systems.

While the first group of recommendations has to do with the development of tools for systems interconnectibility, the second group is concerned with the support and the strengthening of existing services. I should like to read recommendation 8 in detail since it refers specifically to abstracting and indexing services.

"Ongoing experiments and programs aimed at increasing the effectiveness of abstracting, indexing, and translation services, geolinguistically disciplinary or mission oriented, should be publicized and encouraged. Particular support should be given to cooperative schemes resulting in an international sharing of the work and product of such service, as essential building blocks of the world wide information network to which UNISIST is dedicated". The accompanying text refers specifically to ICSU Abstracting Board as the nucleus of an action group to which UNISIST must look for the implementation of its recommendations.

This leads me to the personal observation that I was going to make. Within its area of expertise, the ICSU Abstracting Board is without doubt the principal international association of information processors. It is formed of those

who have operational responsibilities, and whose actions and decisions, therefore, bear weight. Over recent years, ICSU Abstracting Board has shown imagination and initiative in its efforts to accomplish a higher level of cooperation among the existing services. This combination of attributes is precisely what UNISIST must have in order that its recommendations be implemented. If, in short, ICSU/AB did not exist, UNISIST would have to invent it.

If the Intergovernmental Conference succeeds in its mission as planned, it may be anticipated that the sympathy and understanding of governments will be directed to the support of scientific abstracting and indexing. ICSU/AB has already voted to admit national members. It will prove helpful to have informed governmental sources behind such members.

ICSU/AB, of course, is not the only international nongovernmental organization concerned with the processing of information. There are others with which UNISIST must be concerned, IFLA, FID, IFIP and CODATA for example. Let me comment specifically on this last, since it is also a member of the ICSU family. About 90 % of the data evaluation efforts described in the CODATA International Compendium of Numerical Data Projects are literature dependent. Taken all in all, the searching load carried by all of the participants in these numerical data projects perhaps constitutes the largest internationally organized systematic search of the scientific literature yet known.

There is a functional relationship, therefore, between the services which process the published literature, and those which process the numerical data included in that

literature. I would hope in future, that as the ICSU/AB member services move to develop their systems, they will be sympathetic to the requirements of CODATA participants. In closing, let me say that it has not been possible to discuss all of the recommendations of the UNISIST Study Report, and most of them have interest for the ICSU/AB member services. I can only commend the complete report to your attention when it is published later this year and to express the hope that you will study it very carefully and will come prepared to the Intergovernmental meeting in October 1971 to discuss them.

4.2.3. ISO

REPORT ON THE ACTIVITIES OF ISO/TC 46

by J. EGGERT*
Secretary, ISO/TC 46

The American Magazine of Standards regularly uses as its banner headline the anonymous quotation "Standardization is dynamic, not static ; it means not to stand still, but to move forward together". The word "standardization" does often have a numbing effect and a deadening sound because standards have often looked dull and old-fashioned in their published form, have been written in a pseudo-legal wording, have taken too long to prepare and have not been updated quickly enough. It is important to break through this psychological barrier because standards are for the common good.

The picture is changing for industry, especially exporting industry, and governments throughout the world realize that they need standards and in the last ten years massive support has begun to swing behind not only industrial and national standards, but also behind international standardization, which has ceased to be just a paper political exercise.

* This report was presented by N. Dusoulier, ISO liaison officer with the ICSU AB

There is now activity on both the national and international fronts regarding the establishment of documentation standards. The result is a growing recognition that at least those working in the communication field should try to communicate effectively, and that the mechanization of library processes requires not only standardization of the automated techniques and equipment but - ever more important - standardization of the present manual processes and conventions if the mechanization is to be carried out effeciently and economically.

The German Sectional Committee for Library, Book and Periodical Science (now S.C. for Library and Documentation Science) is also interested in standardization at the international level, proposed in 1938 the establishment of Technical Committee ISA-46. In 1951 Germany became a new member body of ISO and the Secretariat of ISO/TC 46 "Documentation" has been coordinated with the Sectional Committee since 1966. Germany took the Secretariat fully aware of the splendid work NIDER had done in the past.

The work in progress within ISO/TC 46 relates currently to four main fields - bibliographical standards, conversion of written languages, microform standards and terminology. To the first group belong standards for title-leaves, abstracts and synopses, form of bibliographical references for patents, the presentation of translations, an international system for standard book serial numbering, the preparation of library directories, section numbering, alphabetical arrangement, the abbreviation of titles of periodicals, finally library statistics - carried out jointly with IFLA and UNESCO - a draft was completed in May of this year. Very often international draft proposals are based on existing national standards.

The projects for the conversion of written languages include the transliteration of Arabic, Greek and Hebrew characters, the conversion of Yiddish, the romanization of Chinese and Japanese and the conversion of non-Slavic Cyrillic letter languages.

Some of the activity on standards for microforms is listed at the end of this paper ; it has been carried out in liaison with ISO/TC 42.- photography.

One of the working groups of ISO/TC 46 is responsible for terminology standards and has established a scheme for grouping documentation terms.

Because of the need for better co-operation, after a three years break, the Secretariat arranged a plenary meeting of the Committee which was held in Moscow in 1967 on occasion of the General Assembly of ISO. With new ideas of what had to be done, all pending documents could be finished, and thus it was possible for the Secretariat to publish 7 ISO Recommendations in 1968. You will find a list of the ISO-Recommendations as annex of this report.

Fully aware of the necessity of contacts with other international organizations, especially to avoid duplication of work, observers are sent to different meetings to stress the interest of ISO. So the Secretariat of TC 46 got in touch with UNESCO, ICSU, OECD and FID. This resulted in a close co-operation with UNESCO concerning e.g. the UNISIST-project which will be discussed in another session of this meeting.

Recently ISO/TC 46 held its 12th plenary meeting in Stockholm from 20-25 October, 1969 where 80 participants and 7 observers of international organizations were present and gave brief reports of their organizations and work. The assembly approved 17 resolutions and discussed the problems related to submitted documents.

Three documents were submitted for approval to the members of TC 46 in form of drafts because the working papers "Section numbering in written documents", "International standard for directories of libraries, information and documentation centres" and "International standard for book numbering" had been completed in the course of the Stockholm meeting.

Additionally DR 1278 "International code for the abbreviation of titles of periodicals" put in abeyance in spring 1969 because of a necessary second revision requested by the English speaking members of TC 46 has been finished in the meantime by a small task group. It was submitted to the Central Secretariat for approval.

There was a short survey of the history and the present status of work of TC 46. It should be mentioned that during the meeting in Stockholm a new working group has been established, WG 4 "Automation in Documentation". This group met from 27-29 May, 1970 in Hälsingborg/Sweden. Its first task among many other problems arising in libraries and documentation centres was the creation of a draft proposal for a standard on "bibliographic information interchange for magnetic tape". In an age of growing importance of the exchange of bibliographic data in machine readable form such a standard will be of great value for all those, who want to use the bibliographical work done by others and in other countries for their own purposes.

Therefore we should continue to procced towards the creation of national bibliographical centres, exchanging the data generated in their own country according to and with the aid of international standards. The above mentioned meeting also considered the problem of alphabetic arrangement, which has been discussed since 1911 and not yet solved.

More favorable is the situation in another field of work of ISO/TC 46. Working Group 1 of this committee, entrusted with the standardization of the International Standard Book Numbering, which has been settled in two years time, will be published soon in the form of an ISO-Recommendation as well as a German DIN standard. It was also charged with the problem of creating a system for international standard serial numbering (ISSN) and started its work at a meeting in Oslo, 22-24 June, 1970.

In closing my report I would like to emphasize not only the importance of standards as such, but also the need, for all of us who are involved in so many practical problems of daily routine should also be active in coming together to establish a system of library and documentation standards, fixing as many things as necessary for successful co-operation and practice. Thus leaving free the rest for future research on standardization and for creative, independent work.

International code for the abbreviation of titles of periodicals	R 4–1953	Code international pour l'abréviation des titres de périodiques
Layout of periodicals	R 8–1954	Présentation des périodiques
International system for the transliteration of slavic cyrillic characters. 2nd Edition	R 9–1968	Système international pour la translittération des caractères slaviques cyrilliques. 2e Edition
Errata of first printing September 1968	Errata	Errata du premier tirage Septembre 1968
Short contents list of periodicals or other documents	R 18–1955	Sommaire de périodiques ou d'autres documents
Bibliographical strip	R 30–1956	Manchette bibliographique
Bibliographical references. Essential elements	R 77–1958	Références bibliographiques. Eléments essentiels
Abstracts and synopses	R 214–1961	Analyses et résumés d'auteurs
Presentation of contributions to periodicals	R 215–1961	Présentation des articles de périodiques
International system for the transliteration of Arabic characters	R 233–1961	Système international pour la translittération des caractères arabes
Transliteration of Hebrew	R 259–1962	Translittération de l'hébreu
Bibliographical references. Essential and supplementary elements	R 690–1968	Références bibliographiques. Eléments essentiels et complémentaires
Abbreviations of typical words in bibliographical references	R 832–1968	Abréviations des mots typiques dans les références bibliographiques
Abbreviations of generic names in titles of periodicals	R 833–1968	Abréviations de noms génériques dans les titres de périodiques
International system for the transliteration of Greek characters into Latin characters	R 843–1968	Système international pour la translittération des caractères grecs en caractères latins
Index of a publication	R 999–1969	Index d'une publication
Title-leaves of a book	R 1086–1969	Feuillets de titre d'un livre
Sizes of photocopies (on paper) readable without optical devices	R 169–1960	Formats de photocopies (sur papier) lisibles sans intermédiaire optique
Microcopies on transparent bases. Sizes of recommended bases	R 193–1961	Microcopies sur supports transparents. Dimensions des supports recommandés
Microcopies. Scale of 35 mm microfilms for international exchange	R 218–1961	Microcopies. Echelle des microfilms de 35 mm destinés aux échanges internationaux
Terms relating to microcopies and their bases	R 260–1962	Termes relatifs aux microcopies et à leurs supports
Terms relating to microcopy apparatus	R 371–1964	Termes relatifs aux appareils pour microcopies
ISO conventional typographical character for legibility tests (ISO character)	R 435–1965	Caractère typographique conventionnel ISO pour essais de lisibilité (Caractère ISO)
Microcopies. Legibility tests. Description of the ISO mire (ISO test object) and its use in photographic document reproduction	R 446–1965	Microcopies. Essais de lisibilité. Description de la mire ISO et utilisation de cette mire dans la reproduction photographique des documents
Essential characteristics of 35 mm microfilm reading apparatus	R 452–1965	Caractéristiques essentielles des appareils de lecture pour microfilms de 35 mm
Microcopies. Legibility tests. Description and use of the ISO micromire (micro test object) for checking a reading apparatus	R 689–1968	Microcopies. Essais de lisibilité. Description et utilisation de la micromire ISO pour l'examen d'un appareil de lecture
Microcopy. Measurement of the screen luminance of microfilm readers	R 782–1968	Microcopie. Mesure de la luminance des écrans d'appareils de lecture
16 mm and 16 mm microfilms, spools and reels	R 1116–1969	Microfilms de 16 mm et de 35 mm, bobines d'approvisionnement et de lecture

4.2.4. WORLD FEDERATION OF ENGINEERING ORGANIZATIONS(WFEO) REPORT OF ACTIVITIES

presented by H.D. BARLOW
Chairman, WFEO Committee on Engineering Information

Introduction

1. The following report has been drawn up with the intention of informing all members of WFEO of the progress of its activities since the Second General Assembly held in October, 1969. It indicates, inter alia, what progress has been made in putting into effect the proposals agreed at the Second General Assembly and gives details of new developments within the Federation.

Executive Committee

2. The Executive Committee of WFEO met in Geneva on 29th June, 1970 and discussed the following items, details of which are given later in the report :

a) Constitution of WFEO
b) Reports of progress of committees and contracts
c) Third General Assembly
d) Finance
e) Membership of WFEO

3. It was with very deep regret that the Committee learnt of the unexpected death of Academician Samarin, Vice-President of the Federation, on 21st May, 1970. Upon receipt of this news, the President and the Secretary-General wrote to the National Member for the Soviet Union to express regret on behalf of WFEO and to invite a representative of the Soviet Union to attend the meeting of the Executive Committee in the place of Academician Samarin. The Committee welcomed Mr. V. Silouianov, who informed the Committee that he would maintain contact between the Soviet Union and WFEO until a successor to Academician Samarin had been appointed.

Constitution

4. As agreed at the Second General Assembly, a revised text of the draft Constitution was drawn up, incorporating the amendments agreed by the Second General Assembly and including the changes which the Executive Committee proposed as a result of study of the proposals referred to them.

5. The revised text was circulated to all National Members on 14th May, 1970, together with an invitation to approve its terms or to suggest amendments to be received by the Secretary-General by 14th August, 1970.

6. The Executive Committee agreed that its comments should be reviewed simultaneously with those received from National Members after 14th August but it considered, provisionally, the observations which had already been put forward. The points made during the course of this discussion were noted and the Secretary-General was requested to take these into account when drawing up the definitive version for submission to the Third General Assembly.

Reports of progress of committees and contracts

7. As foreshadowed and, in certain cases, agreed at the Second General Assembly, various committees of WFEO have been or are in process of being set up and several contracts have been entered into with UNESCO and UNIDO. The information given below indicates the progress of these committees and contracts. Efforts have been made, particularly in the case of the Committee on Ocean Engineering, to avoid any overlap with studies already being carried out by other organizations.

Committee on Engineering Information

8. An invitation was sent to all National Correspondents in December 1969 to nominate National Correspondents for the Committee on Engineering Information, and, with the agreement of the Executive Committee, the following representatives were selected to serve on this Committee :

Argentina	Mr. D. Bianchi
Australia	Mr. A. Ellis
Bulgaria	Mr. L. Raykov
Canada	Air Vice-Marshal McBurney
Federal Republic of Germany	Dipl-Ing. J. Larink

France	Mr. Michel Ducas
India	Dr. H.C. Visvesvaraya
Italy	Mr. Luigi Croce
Poland	Mr. Stanislaw Janiszkiewicz
Rumania	Mr. Aurel Avramescu
Sweden	Mr. G.A. Hambraeus
United Arab Republic	Eng. Aly F. El Daghestany
U.K.	Mr. D.H. Barlow
U.S.A.	Prof. F. Karl Willenbrock
U.S.S.R.	Mr. N.B. Arutiunov

9. The first meeting of the Committee was held in Warsaw, at the invitation of the Polish National Member, on 13th and 14th May, 1970. Mr. D.H. Barlow, National Correspondent for the U.K., was elected Chairman and Mr. S. Janiszkiewicz acted as Secretary, in accordance with the acceptance by the Second General Assembly of the offer of the Polish National Member to provide the secretariat of the Committee on Engineering Information. Representatives of UNESCO, UNIDO and ICSU-AB also attended the meeting as observers. Among its many functions, the Committee placed particular importance on the development of an awareness among professional engineers of the value of exchange of engineering information and on the promotion of continuous improvement of communication techniques, especially in developing countries. To help towards the achievement of the latter objective, the Committee expressed its readiness to assist National and International Members in the development and improvement of their own information services and to cooperate with other organizations concerned with the communication of information. Emphasis was placed on the need for inviting other scientific and technical bodies to assist in the establishment, within UNESCO, of a World Scientific Information System, UNISIST. The

Committee also resolved to set up two working groups ; one to prepare a comprehensive questionnaire for use in investigating the needs of engineers for information services, the other to identify and examine existing information services. The Committee hoped that its next meeting would be held in London in March 1971, in order to be able to report to the Third General Assembly. The Executive Committee, when considering this point, hoped that sufficient saving could be made within the current budget to enable the second meeting to take place as desired. A press notice was issued to National Correspondents following the holding of the first meeting of the Committee. By an unfortunate mistake the notice omitted the name of Australia as one of the countries represented at the meeting.

Proposed plans for associating WFEO with the Abstracting Board of the International Council of Scientific Unions (ICSU-AB)

10. The following proposals which have been agreed by ICSU-AB were put before the Executive Committee of WFEO for consideration :

a) - That without changing the constitution of ICSU-AB, the Abstracting Board would be prepared to accept immediately applications for admission from the following engineering information services :

The Engineering Sections of Referativny Zhurnal, Bulletin Signalétique, Science Abstracts, and Japanese Information Centre for Science and Technology ; Engineering Index ; Technische Zentralblatt.

b) - That the present constitution of ICSU-AB which provides for three representatives of ICSU, and representatives of the Scientific Unions and of the Information Services comprised within the Abstracting Board, should be amended so that there would be two representatives of ICSU and two of WFEO.

c) - That the Executive Committee of ICSU-AB, which at present includes one representative of ICSU, three of the Scientific Unions, and three of the Information Services, should be changed to include one representative of ICSU, one of WFEO, three of the Scientific Unions, and four of the Information Services. If WFEO were to create bodies corresponding to the Scientific Unions, i.e. international committees covering particular fields of engineering such as mechanical, electrical, etc., they could be given representation equal to that given to the Scientific Unions.

d) - That the title of the reconstituted board should be INFIS (International Federation of Information Services), with the sub-title ICSU-WFEO Board of Information Services.

e) - That WFEO should make a contribution of $10,000 a year to meet the expenses of ICSU-AB, to match the contribution made by ICSU.

11. In considering the above proposals, the Executive Committee of WFEO noted that the proposed changes of the constitution of ICSU-AB and of its Executive Committee could not become effective until July, 1971, although the engineering

information services could be included within ICSU-AB at once. The Secretary-General informed the Committee that a large proportion of ICSU's contribution of $10,000 was met by a grant received from UNESCO and that he was making enquiries of UNESCO to see whether similar support could be given to WFEO. After consideration of all the information given above, the Executive Committee agreed that the proposed collaboration with ICSU-AB was highly desirable, provided that the financial implications were thoroughly explored and that such collaboration would not result in any loss of the freedom of WFEO to carry out work in the information field.

Committee on Education and Training

12. A request was sent to all National Correspondents in December, 1969 to nominate National Correspondents for the Committee on Education and Training, and the Executive Committee at its meeting October 1969 accepted an offer from the Canadian National Member to provide the secretariat for this Committee. As indicated by the Secretary-General at the Second General Assembly, UNESCO have expressed a wish to participate actively in the establishment and development of the Committee on Education and Training and, to this effect, they have offered to enter into a contract under which the World Federation would :

a) - Identify a suitable leading educator in each of its national member organizations to act as a national correspondent on engineering education. UNESCO would, on its part, attempt to identify similar correspondents in countries that are not yet members of WFEO.

b) - Develop the WFEO Committee on Education and Training as an effective and continuing international study group on engineering education, with the active participation and support of UNESCO.

c) - Arrange for the first meeting of the above committee in December 1970. The major agenda item would be the planning of future national and regional working groups on engineering education, to be coordinated by the Committee and UNESCO. Where necessary, the travel of delegates should be subsidized, as part of the contract.

d) - Publish a report of the meeting, including recommendations for future joint action by WFEO and UNESCO.

13. A draft constitution of the Committee on Education and Training was considered by the Executive Committee but it was thought that certain changes were required before the final list of countries to be invited to provide members could be agreed. The Secretary-General was requested to give further consideration to the composition of the Committee. The contract has now been signed by the Secretary-General, committing the World Federation to meet the requirements indicated above.

Committee on Ocean Engineering

14. In order to avoid duplication of similar studies in this field, the Secretary-General explored the possibility of collaboration between WFEO and the Engineering Committee of Oceanic Resources (ECOR), as a result of which a proposal was received from ECOR that Committee should form the nucleus

of the Committee on Ocean Engineering of the World Federation. In respect of this proposal, the Executive Committee noted the following points :

a) - That the stated objects of ECOR included the aim of providing 'an organization to facilitate communication and focus activity among professional ocean engineering societies internationally'.

b) - That the following countries comprised the current membership of ECOR : Canada, Denmark, Sweden, France, Netherlands, Japan, Mexico, Portugal, South Africa, U.K., and U.S.A.

c) - That the secretariat of ECOR, currently held by the National Academy of Engineering of the U.S.A., should continue to be held by the National Academy.

d) - That ECOR was financed by subscriptions from participating members and that, if the above proposal were adopted, this arrangement should continue.

15. The Executive Committee, whilst recognizing the need for active collaboration with ECOR, maintained that it was essential to retain the independence of WFEO in dealing, through the Committee, with matters concerning ocean engineering, and asked the Secretary-General that, in negotiating with ECOR for the establishment of the Committee on Ocean Engineering, this point be given careful consideration.

Committee on Environmental Engineering

16. A recommendation was put before the Executive Committee that a Committee on Environmental Engineering should be appointed with the following terms of reference :

a) - To study the effects of the introduction of engineering projects on the environment, and in particular their effects on

(i) the ecology
(ii) the social well-being in the regions concerned

and

b) - to make recommendations to the Executive Committee, for submission, if thought fit, to the General Assembly, on measures for ensuring a balanced and favourable outcome of engineering projects whereby pollution and other detrimental consequences to the environment may be held to a minimum.

17. The Secretary-General wrote to each National Correspondent in December 1969, inviting them to nominate a National Correspondent for the Committee on Environmental Engineering and, from the replies received, the following constitution of the committee was proposed for approval by the Executive Committee :

Australia, Bulgaria, Federal Republic of Germany, France, Italy, Rumania, Switzerland, U.K., U.S.A., U.S.S.R., Venezuela.

18. The Executive Committee approved the proposed terms of reference and the list of countries which should be invited to provide members of the Committee, and also considered the financial implications. It was appreciated that, as the Committee on Environmental Engineering was a 'specialized' committee of WFEO, as defined at the Second General Assembly (GA(69)SR, para. 25.7), it should be self-supporting but, with a view to

a possible means of alleviating the financial situation, the Executive Committee requested the Secretary-General to bring the establishment of this Committee to the attention of UNESCO. The Committee asked the Secretary-General to ascertain whether UNESCO would be prepared to give financial assistance towards the setting up of the Committee on Environmental Engineering.

Contracts undertaken by WFEO for UNESCO and UNIDO

19. The Secretary-General, on behalf of WFEO and with the approval of the Executive Committee, has contracted to carry out, for UNESCO and UNIDO, various projects, some of which were first proposed at the Second General Assembly and some of which have arisen since. Details of each of the contracts are given below :

a) Survey of multilateral, intergovernmental and non-governmental cooperation in the field of engineering

20. On 7th May, 1970, the Secretary-General entered into a contract with UNESCO under which the World Federation was required to carry out a survey of existing multilateral, intergovernmental and non-governmental cooperation in the field of engineering'.

21. As the contract required that the survey should be completed by the end of July 1970, two consultants were commissioned to carry out the project. A closely related study was placed by UNESCO at Birmingham University, U.K., and there

has been close collaboration between the consultants carrying out the two surveys. The final report has now been drafted and will be submitted to UNESCO by 31st July.

22. During the course of discussion of this and other contracts, the Executive Committee maintained that, whilst there were potential dangers in accepting contracts which allowed very little time for completion, WFEO should show itself willing and able to undertake and carry out contracts of this nature.

b) UNIDO study on the role of engineering societies in industrial development

23. As agreed at the Second General Assembly, the Secretary-General has entered into a service agreement with UNIDO whereby the World Federation is required to 'prepare a study on the role of engineering societies in industrial development, which will be based on a detailed questionnaire to be sent to the National Members of the World Federation of Engineering Organizations'. The questionnaire, having received the approval of UNIDO, has now been circulated to all National Members and, upon receipt of the replies, a report will be written, to be submitted to UNIDO by the end of September, 1970. National Members are especially requested to complete and return the questionnaire promptly.

c) Meeting of Editors of European engineering journals

24. As foreshadowed at the Second General Assembly, WFEO have contracted with UNESCO to convene a meeting, in September 1970, of the editors of European engineering journals. As the

territorial scope of the meeting is European, the Secretary-General invited, and has received from the outset, the collaboration of FEANI in this project. In addition to the invitations sent to National Members of WFEO, invitations will also be sent to all European member nations of UNESCO who are not members of WFEO. The funds made available by UNESCO will cover the expenses of about ten editors only. Other editors, whether of the journals of engineering societies or of commercial engineering journals, have been invited to attend at their own expense. The Executive Committee accordingly agreed that the expenses of the two day meeting should be paid for one editor from each of the following countries : Czechoslovakia, Federal Republic of Germany, France, Hungary, Italy, Netherlands, Poland, Sweden, Switzerland, U.K., and U.S.S.R. Arrangements have been made for the meeting to be held on 3rd and 4th September, 1970 at UNESCO House in Paris.

d) Promotion of the formation of engineering societies and regional federations of engineering societies in developing countries

25. The Executive Committee considered and approved a proposal that WFEO should enter into a contract with UNESCO whereby WFEO would assist UNESCO in the organization of a conference of representatives of national engineering societies of African member nations of UNESCO to be held at the regional headquarters of UNESCO in Nairobi in December 1970, to which should also be invited, if practicable, individual senior engineers from African countries which do not have engineering

societies but which may be sufficiently developed to warrant the establishment of such societies. The main object of the conference will be to consider whether a federation of African engineering societies should be set up ; and also to encourage the participants from countries without engineering societies to consider taking steps, with the assistance of UNESCO, to establish societies within their own countries.

26. The Federation of Arab Engineers which covers a substantial part of North Africa has welcomed the proposed conference and has indicated its wish for full participation. The Executive Committee recommended that Mr. Sakr should represent the WFEO Executive Committee at the Nairobi Conference.

27. The Secretary-General will be visiting several African countries in August to attend to business unconnected with WFEO and will take the opportunity of discussing the proposed federation with representatives of the national societies whom he expects to meet.

e) Survey of current world facilities in engineering education

28. A contract has been discussed, but not yet signed, by the Secretary-General and officials of UNESCO whereby a sum of $3,000 may be made available to WFEO to carry out a survey of the current world facilities in engineering education, by means of a questionnaire to be sent to all National Members of WFEO. The Executive Committee agreed that the Secretary-General should undertake the work if the contract is, in fact, offered.

Third General Assembly

Dates

29. The Executive Committee agreed that the Third General Assembly should be held at Varna, Bulgaria, on the following dates :

Monday, 28th June 1971
Tuesday, 29th June 1971
Wednesday, 30th June 1971 (morning)

30. It was also agreed that the Executive Committee should meet on Sunday, 27th June 1971 and Wednesday, 30th June; 1971 (afternoon). Assurance has been given by the National Member for Bulgaria that if any delegates wish to arrive before or to extend their stay after the meeting and give notice of this intention before 31st March 1971, accomodation will be reserved accordingly.

Provisional agenda

31. In considering the draft agenda for the Third General Assembly, the Executive Committee thought that the subject of the continuing education of engineers, which had been proposed as an agenda item by the Rumanian National Member, could not be adequately covered by a general discussion. It is proposed, therefore, that instead of considering this subject as an item on the agenda, an eminent educationalist should be invited to address the General Assembly, the title of the lecture being 'The continuing education of engineers'.

Finance

32. The Executive Committee have expressed considerable concern about the failure of some National Members to pay their subscriptions, and this matter will receive close attention at the Third General Assembly. The Committee have requested that, in the mea time, the Secretary-General should write to defaulting members reminding them of their financial obligations to WFEO.

33. A statement, indicating the present state of subscriptions, is attached as Appendix I and a statement of the overall financial position of WFEO will be circulated as soon as possible.

Membership of WFEO

34. An invitation for National Membership of WFEO has been sent to Tunisia, who indicated a wish to join the World Federation. The National Members for Luxembourg and Malta have resigned their membership of WFEO as they have found it impossible to maintain payment of their subscriptions.

Requests received for the attendance of WFEO observers at meetings

35. An invitation has been sent to WFEO, requesting the attendance of an observer of WFEO at the UPADI Convention to be held in Buenos Aires in September 1970. Mr. Végh Garzon, Vice-President WFEO and Dr. W.H. Wisely, Member of the Executive Committee, WFEO, will jointly represent WFEO at this meeting.

36. UNESCO also invited an observer of WFEO to attend the UNESCO meeting of experts in engineering education to be held in Paris from 21st - 24th July 1970 and Mr. J.S. Raven, Registrar of the Institution of Electrical Engineers represented WFEO at this meeting.

UNISIST

37. An invitation has been received from UNESCO requesting the attendance of a WFEO observer at the fifth session of the Central Committee for the ICSU/UNESCO joint project on the communication of scientific information, (UNISIST). Mr. D.H. Barlow who is the Chairman of the WFEO Committee on Engineering Information will represent the World Federation on this occasion.

Conclusion

38. Although WFEO is still in its early days, it can be seen that it is gathering momentum as an effective international federation. However, if WFEO and its stated objectives are to develop fully, it is essential that each of its members should recognize its financial commitments to the Federation. Whilst there is every indication of continued collaboration with international organizations such as UNESCO, UNIDO and ICSU-AB, it must be acknowledged that the future success of WFEO as an active international association depends entirely upon its members and their recognition of their responsibilities to the Federation.

4.2.5. FEDERATION INTERNATIONALE DE DOCUMENTATION
REPORT OF ACTIVITIES

by J.E. BROWN
F.I.D. Councillor
Chief Librarian, National Science Library, Ottawa

Dr J.E. Brown, FID Councillor and Chief Librarian, National Science Library, Ottawa, reported about the numerous activities of FID in the field of information. Full details may be found in the "Report of the Secretary General on the activities of FID in 1969", which is available from the FID secretariat, 7 Hofweg, The Hague, Netherlands.

4.2.6. THE INTERNATIONAL NUCLEAR INFORMATION SYSTEM REPORT OF ACTIVITIES

by J.E. WOOLSTON
Director, Division of Scientific & Technical Information, International Atomic Energy Agency, Vienna

ABSTRACT

A new computer-based, mission oriented information system came into operation in May 1970. The computer tapes with bibliographic descriptions and subject descriptors are supplemented with microfiche files of abstracts and a microfiche service of full texts. Input to the system is prepared by the Member States of the International Atomic Energy Agency, acting through national and regional centres. Initially, the subject scope of the system is limited (equivalent to about 28 000 items per year), but ultimately it is expected to expand to cover all the nuclear sciences and their possible applications (more than 100 000 items per year).

The International Nuclear Information System (INIS) is a cooperative project involving the International Atomic Energy Agency and its Member States as partners in the preparation and utilization of a data base identifying and describing the literature dealing with nuclear science and its applications.

Planning for the system began in late 1966, and the system was defined by international groups of consultants and by meetings of experts from various participating countries. The system involves compromises to make it useful to countries at varying levels of development. It was necessary to make these compromises while at the same time ensuring that the system had potential to incorporate more advanced techniques in the years to come.

INPUT

So far, 35 countries and 4 international organizations have agreed to provide input to the system. For a national organization, this means scanning the scientific and technical literature published in its area, preparing bibliographic descriptions, assigning subject or descriptors, writing or re-writing abstracts and, in the case of what is called "non-conventional literature", i.e. everything except journal articles and commercially-published books, securing a copy of the full text.

The more advanced countries submit the bibliographic descriptions and subject descriptors on magnetic tape in what is essentially MARC-II format. Other countries are submitting the same data on paper tape which is converted to magnetic tape in Vienna. The smaller producers submit this input on worksheets.

Abstracts are typed on paper and submitted in at least one of the working languages of the system - English, French, Russian or Spanish. The original language version of the abstract may also be submitted if it is not one of these.

Full texts are supplied either on paper or on microfiches.

PROCESSING

The input is received in Vienna, and the bibliographic descriptions and subject descriptors are required to pass a series of computer checks. When possible, errors are corrected in Vienna, and if necessary, records are referred back to the inputting centre. No meaningfull statistics are yet available on the error rates, but the greatest difficulties have been encountered in securing adherence to the authority list for "corporate entries", i.e. the names and locations of institutions.

OUTPUT

The products of the system are :

- A magnetic tape service issued monthly, and containing all records that have passed the error checks in the preceding cycle. The records are sequenced according to a broad subject category system and, within each category, in alphabetical order of personal authors. Each record is identified by a serial number.

- A monthly bulletin INIS Atomindex, which reproduces the contents of the tape and is supplemented with computer-produced indexes for personal authors, corporate entries and report numbers. These indexes will be cumulated annually ; the bulletin is on sale to the public.

- Abstracts-on-Microfiche. The abstracts are given the same serial numbers as the corresponding records on the magnetic tape, sequenced in the same order and reproduced on microfiches. Each abstract is headed by a computer print-out of the bibliographic description. The microfiche file is sold on annual subcription to the public.

- A clearinghouse service of microfiche copies of full texts of non-conventional literature. Standing orders are accepted and individual sales are made.

Since the first output of the system appeared only in May 1970, no adequate evidence is yet available to measure its acceptance by the users.

SUBJECT SCOPE

The system is beginning on a limited subject scope, which nevertheless includes the following main topics :

. Reactors and Reactor Materials
. Uranium Production and Fuel Cycles
. Nuclear Techniques in Food and Agriculture
. Health, Safety and Waste Management
. Isotope Production
. Industrial Applications of Radiation
. Peaceful Nuclear Explosions
. Safeguards, Legal and Economic Questions

It was the intention of the designers of the system to enlarge this to cover all the nuclear sciences and their peaceful applications, but the decision on enlargement awaits the evaluation of the more limited system now in operation.

CONTROL

In a highly-decentralized system, it is necessary to make every tool available for ensuring consistency and adherence to the rules. The documents listed below are available and have been distributed to all the inputting centres.

- IAEA-INIS-1(Rev.0) Descriptive Dataloguing Rules
- IAEA-INIS-2(Rev.0) Descriptive Cataloguing Samples
- IAEA-INIS-3(Rev.1) Subject Categories and Scope Descriptions
- IAEA-INIS-4(Rev.0) Instructions for Submitting Abstracts
- IAEA-INIS-5(Rev.0) Terminology and Coes for Countries and International Organizations
- IAEA-INIS-6(Rev.1) Authority List for Corporate Entries
- IAEA-INIS-7(Rev.0) Magnetic and Punched Paper Tape Codes and Character Sets
- IAEA-INIS-8(Rev.0) Paper Tape Specifications and Record Format
- IAEA-INIS-9(Rev.0) Magnetic Tape Specifications and Record Format
- IAEA-INIS-10(Rev.0) Transliteration Rules for Selected Non-Roman Characters
- IAEA-INIS-11(Rev.0) Authority List of Journal Titles

All inputting centres have experienced difficulties in establishing their work and adhering to the rules. These difficulties are progressively being overcome, and the following figures indicate the number of items escaping from the error control cycle in the first months of the system.

May : 147 June : 386 July : 393

Preliminary information indicates that there will be a large increase in August.

The input so far received has come from a relatively small group of countries, albeit the most productive ones. To ensure that all countries wishing to participate can develop the necessary skills, the Agency is instituting a series of training seminars in the preparation of input. The first full-scale seminar will be held in Bombay from 23 November 1970 to 11 December 1970. A "rehearsal" for this has been scheduled for Vienna from 31 August 1970 to 18 September 1970, and will be attended by at least 20 of the staff members from European inputting centres.

SUBJECT RETRIEVAL SUB-SYSTEM

This sub-system is not yet in operation. It was agreed to make use of the thesaurus that had been developed and used by the Euratom Nuclear Documentation System (ENDS) and the IAEA placed a contract with Euratom in the last months of 1969. Euratom has recently delivered a thesaurus on tape, the draft of an indexing manual, terminology charts supporting the thesaurus, and a set of computer software that permits the checking of input descriptors and the hierarchical posting of more general descriptors. Inputting centres will be asked to begin assigning descriptors towards the end of 1970. For this they will need the service of subject specialists.

Discussions are now underway to establish mechanisms for reviewing the thesaurus and adapting it in the light of experience.

UTILIZATION OF THE SYSTEM

INIS was conceived as a mechanism for providing a data base that could then be employed to provide most of the services expected of a national nuclear information service. Subject descriptors, titles and other bibliographical elements can be searched against SDI profiles or for retrospective retrieval. But it was also recognized that users of the system might also want to publish bibliographies or specialized announcement bulletins. To improve the aesthetics of material prepared on computer line-printers, a set of 120 characters was adopted for INIS records. While this gave many equipment problems for the inputting centres, it does now allow for print-outs in upper-and lower-case characters, subscript and superscript numerals, and a variety of Greek letters and mathematical symbols.

INIS was established to meet the Agency's statutory responsibilities to collect and disseminate information on the peaceful uses of atomic energy. It is, however, also an experiment in operating a highly-decentralized computer-based system and, if this experiment is successful, it will undoubtedly have a wide impact in view of the emerging plans for a world science information system (UNISIST). It seeks to disseminate not only the information that can promote nuclear applications, but also the skills needed to operate advanced documentation systems. Already many countries that have had little experience in modern documentation systems are becoming involved. The people that they train for INIS will hopefully be available in the developing countries to improve their utilization of scientific and technical information as a resource for economic betterment.

4.2.7. COMMITTEE ON DATA FOR SCIENCE AND TECHNOLOGY
REPORT OF ACTIVITIES

by Ch. SCHÄFER
Executive Director, CODATA
presented by G. WADDINGTON,
CODATA Co-opted Member

Background and Mission

The Committee on Data for Science and Technology (CODATA) was established by the General Assembly of the International Council of Scientific Unions at a meeting in Bombay in January 1966. At that time a constitution and terms of reference were approved. It was planned to have Union Members, National Members, Co-opted Members, Liaison Representatives from other international organizations and a staff office to carry forward the program authorized by CODATA. The general tasks of CODATA are as follows :

(1) - To ascertain, on a world-wide basis, what work on compilation of numerical data is being carried on in each country and under each union ;

(2) - To achieve coordination of existing programs and to recommend new programs ;

(3) - To encourage, from all appropriate sources, financial support of work on data compilation ;

(4) - To encourage the use of internationally approved symbols, units, constants, terminology, and nomenclature ;

(5) - To prepare and distribute a Directory of the Data-Compiling Projects and Related Publications of the World ;

(6) - To encourage and coordinate research on new methods for preparing and disseminating data for science and technology.

Membership

Since 1966 CODATA has become a going concern with representation and staff as planned.

The National Members of CODATA are at present nine, with the following representatives :

Canada	Dr. R. Norman Jones
France	Prof. Boris Vodar
Germany	Prof. Wilhelm Klemm
Italy	Prof. Michele Caputo
Japan	Prof. Masao Kotani
Poland	Dr. Tomasz Plebanski
United Kingdom	Prof. Sir Gordon Sutherland
U.S.A.	Prof. Frederick D. Rossini
U.S.S.R.	Prof. M.A. Styrikovich

The Union Members of CODATA are the following :

- International Astronomical Union (IAU)
- International Geographical Union (IGU)
- International Union of Biological Sciences (IUBS)
- International Union of Crystallography (IUCr)
- International Union of Geodesy and Geophysics (IUGG)
- International Union of Geological Sciences (IUGS)
- International Union of Pure and Applied Biophysics (IUPAB)
- International Union of Pure and Applied Chemistry (IUPAC)
- International Union of Pure and Applied Physics (IUPAP)
- International Union of Theoretical and Applied Mechanics (IUTAM)

CODATA has one Co-opted Member, Dr. Guy Waddington.

The current Officers of CODATA are as follows :

- President	Prof. Frederick D. Rossini	(U.S.A.)
- Vice-President	Prof. Sir Gordon Sutherland	(U.K.)
- Vice-President	Prof. Boris Vodar	(France)
- Secretary-Treasurer	Prof. Wilhelm Klemm	(Germany)
- Executive Director (ex officio)	Dr. Christoph Schafer	

The additional voting Members of the Bureau are :

Prof. M.A. Styrikovich	(U.S.S.R.)
Prof. Masao Kotani	(Japan)

CODATA has liaison representation from the following organizations :

- ICSU Abstracting Board
- Federation of Astronomical and Geophysical Services
- International Federation for Documentation
- International Atomic Energy Agency
- Organization for Economic Cooperation and Development
- United Nations Educational, Scientific and Cultural Organization
- World Federation of Engineering Organizations
- World Meteorological Organization

Central Office and Finance

The Central Office of CODATA is staffed as follows :

Executive Director	Dr. Christoph Schafer
Scientific Officer	Dr. Tengus Golashvili
Scientific Editor	Mr. Martin Lewis
Administrative Assistant	Miss Christina Lent
Secretary-Translator	Miss Marie-France Lienard

The Central Office Staff of five persons now comes from four different countries, Germany, France, The United Kingdom, and U.S.R.R.

The Headquarters Office of CODATA was located in Washington, D.C., U.S.A. from 1966 to July 1, 1968 (under Dr. Guy Waddington as Executive Director). At that time the Headquarters Office was moved to Frankfurt, Germany.

The annual expenses of CODATA amount currently to about $70,000, of which $5,000 is provided by the International Council of Scientific Unions, largely for the expenses of the Bureau of CODATA, with the remainder coming from annual dues levied upon the Member countries largely according to the UNESCO scale, with a floor and ceiling. Expenses of Union Members and Liaison Representatives are paid by the parent organizations.

Publications

In furtherance of its aims, CODATA has initiated three publications :

1 - The CODATA Newsletter, issued twice each year, which reports news of the activities and work of CODATA and related matters. Three issues have appeared.

2 - The CODATA Bulletin, which contains reports of the CODATA Task Groups. One issue has appeared.

3 - The International Compendium of Numerical Data Projects.

The first issue of this projected biennial publication appeared in 1969, as a book of about 300 pages, published by Springer-Verlag, of Germany. This book tells what numerical compilation work is being carried on in each country and in each international organization.

Activities

To provide a mechanism for carrying out special assignments, the Constitution of CODATA provides for Task Groups of which the lowing four are now functioning :

(1) - Task Group on Computer Use. This Task Group has held three meetings and has issued its first report in the Bulletin.

(2) - Task Group on Key Values for Thermodynamics. This Task Group has held several informal partitioned meetings, through its Chairman, and is preparing its first report.

(3) - Task Group on Fundamental Constants. This Task Group has 10 Members from 7 different countries and is beginning its work by correspondence.

(4) - Task Group on Data for Chemical Kinetics. This Task Group has 12 Members and has just been set up.

CODATA has held its Annual Meeting in Paris (1966), Moscow (1967), Frankfurt (1968), Rome (1969) and St. Andrews, Scotland (1970). The Bureau has met twice yearly.

The First International CODATA Conference attended by about 100 specialists was held at Arnoldshain, Germany, in 1968. The Second International Conference will be at St. Andrews, Scotland, in September 1970. Advance firm registration is 130.

In addition to the foregoing meetings, conferences on CODATA activities have been sponsored by National Committees for CODATA as follows : (1) U.K. at the Royal Society, June, 1967, Poland by the Polish Academy of Sciences and the National Board for Quality Control and Measures, Warsaw, Poland, September 1969 ; and Canada, at the National Research Council, Ottawa, May 1970.

With an organization firmly established, with the first issue of the Compendium revealing the worldwide status of data compiling, and with a strong network of contacts with people and organizations, CODATA is now coming to grips with the difficult task of providing informal leadership and coordination among data centers in key disciplines in all countries. This is a difficult and challenging task. It is hoped to report progress with this all important phase of CODATA work within a year.

4.2.8. EUROPEAN ASSOCIATION OF EARTH SCIENCE EDITORS
REPORT OF ACTIVITIES

by J. GRAVESTEIJN
Manager, Bibliographie des Sciences de la Terre
Member of EDITERRA

Editerra is the name of the European Association of Earth Science Editors which was created in December 1968 under the joint sponsorship of UNESCO, International Union of Geological Sciences, International Union of Geodesy and Geophysics and International Geographical Union.

The aim of the Association is to promote improved communication in the Earth Sciences through the cooperation of the editors of publications in this field. The membership is open to editors of primary and secondary publications and as such it has a rather unique position.

The President of the Association is Prof. Dr. A. HACQUAERT from Ghent, the Secretary General is A.A. MANTEN, Cortezlaan 9, Utrecht, the Netherlands.

The particular problems related to the editing of especially primary journals justified the establishment of a new organization that can be useful for the standardization of publishing rules and coordination of editorial policy with regard to manuscripts, computer development, duplication, coverage and copyright.

Close contacts exist with the EASE and the European and American sister association in the field of the biological sciences.

The first task of the association, according to the decision of the General Assembly held in Ghent in December 1969, will be the preparation of an "Editor's Handbook". It is obvious that cooperation between the editors associations and ICSU-AB on this point will be of the highest importance.

From the discussions held today we learned that a close contact between editors of primary and secondary literature is highly desirable and necessary and Editerra will be pleased to make a positive contribution to the planned discussions between the ICSU-AB and the editors of scientific publications.

At present about one fifth of the well over 500 existing primary European journals in the fields of the earth sciences are members of Editerra, including the majority of the leading journals.

4.2.9. COUNCIL OF BIOLOGY EDITORS
REPORT OF ACTIVITIES

by K.F. HEUMANN
Secretary, C.B.E.

The rise of associations of editors is quite a recent phenomenon. In preparing an article on this subject, I have identified 11 current groups. The one I represent here is the Council of Biology Editors ; it is now in its 15th year. In May, 1970, we met in Ottawa, Canada, where 82 attended. Our membership is now just under 300. About 15 % are foreign.

The members are editors and managers of (mostly) primary journals in biology.

Probably the best known work of the Council is the "Style Manual for Editors of Biological Journals". It is now being revised for the third edition. So far, nearly 50,000 copies have been sold. There is a general feeling that this wide distribution has made a noticeable difference in the editorial style of biological periodicals.

A more recent book from the Council is "Graduate Training in Scientific Writing". It was published in 1969 and is now in its third printing.

Some committee titles may be of interest : Editorial Policy ; Journal Economics ; Form and Style ; and the Fred Cagle Award in Scientific Communication.

I am the editor for the Council of the CBE Newsletter, an irregular periodical sent to members. I invite written communications from ICSU-AB or others on topics thought to be of interest to our membership.

Following discussions here this week, I can say that the Council would be interested in participation in the meeting suggested with ICSU-AB and primary journal editors. There is an increasing necessity for this meeting. I am by nature a "Lumper" rather than a "Splitter", and I view the scientific publication world as one system, or as a continuum ; conflict or antagonism can only hurt us all.

4.2.10. NATIONAL LIBRARY OF MEDICINE

REPORT OF ACTIVITIES

by M.E. CORNING
Special Assistant to the Director,
International Programs, NLM.

We appreciate the opportunity to attend this ICSU AB Meeting as an observer. My brief comments will attempt to place MEDLARS and the National Library of Medicine (NLM) in perspective relative to the current and proposed scope of ICSU AB and the many information problems discussed during these few days.

MEDLARS is an acronym (Medical Literature Analysis and Retrieval System); it is a computer-based storage and retrieval system of augmented scientific references for the professional user. MEDLARS is but one functioning element of the NLM, which is a federal institution and both a national and international resource. The Library has a mandate from the United States Congress to collect and disseminate information to improve medical research, education and practice. Accordingly, the programs of the NLM are directed at both the individual and the institution and at local, regional, and national levels. Through NLM programs, U.S. medical libraries receive financial assistance to improve library resources and the provision of services,

to increase the number of specialized staff, to apply electronic technology to library processes and information services, and to develop interlibrary network relationships. We have a National Medical Audiovisual Center for audiovisual resources and related specialized services and a Lister Hill National Center for Biomedical Communications for the application of new technology to communications. Thus, the Library is not a traditional library, but an active ingredient in the communications process.

The principal publication of the Library is the monthly INDEX MEDICUS, which was first issued in 1879 and was based on the concept of a subject access to the biomedical literature. This concept is valid today ; only the volume of information and the techniques of processing have changed. Today we use computer technology, but the human intellectual effort of preparing the indexing input and the search retrieval remains the most important element.

MEDLARS became operational in 1964. The contents of the data base are drawn from 2300 journals of the world's biomedical literature and over half are non-English language. MEDLARS have two primary purposes--preparation of bibliographic publications and the provision of subject-oriented demand searches. The Library cooperates with scientific and professional societies who have specialized information needs by providing recurring bibliographies in these specialty areas. Demand searches are performed at the request of individuals who identify specific interest and needs.

The NLM decided that MEDLARS should be evaluated objectively, and an Evaluation Study was conducted by L. Wilford Lancaster under the guidance of an external board of advisors.

The results demonstrated that the system was performing satisfactorily but also highlighted the need for more careful indexing, improved interface between the user and the system, further vocabulary development, and general quality control. We believe this evaluation is unique and that its methodology and results are noteworthy not only for our development of MEDLARS II but for other information retrieval systems.

This group may be particularly interested in the international programs of the NLM. They are varied and I shall single out only one : our MEDLARS Bilateral agreements. These agreements are quid-pro-quo arrangements with no transfer of funds. They depend on a sharing of time, talent and resources. The National Library of Medicine provides magnetic tapes, technical backstopping and training. The participating country must meet criteria relating to technical, personnel and fiscal resources. The participating country sends people to the NLM for training in both indexing and searching, and each country subsequently provides indexing input into our system. There are currently eight such agreements, with the United Kingdom, Sweden, France, Germany, Australia, Japan, the World Health Organization, and Canada. Thus, MEDLARS is a shared developmental system.

One of the strengths of the National Library of Medicine is that its staff is drawn not only from medicine and library science but also from the physical and engineering science as well. Further, the Library works very closely with the professional groups whom it serves. The user community participates in the development of NLM products and critiques these products so that the development of specialized information services is done in response to clearly identified needs of the biomedical community.

This very brief commentary can only serve as an introduction to who we are and what we do. We appreciate the invitation to attend these ICSU AB meetings as an observer. We would welcome more extended discussions with each and all of you at any time in the future.

4.2.11. NATIONAL SCIENCE LIBRARY OF CANADA
REPORT OF ACTIVITIES

by J.E. BROWN
Chief Librarian, National Science
Library of Canada

Dr. J.E. Brown, Chief Librarian, spoke of the National Science Library as an information transferral agency and outlined the main features of the Library's national SDI Service which at present utilizes 5 data bases. For further details, please refer to "The CAN/SDI Project" in Special Libraries vol. 60, Oct. 1969, p. 501-9.

REVIEW, SUMMARY AND CONCLUSIONS OF THE MEETING

A.J.C. WILSON

For reasons not entirely clear to me, our President has asked me to sum up this meeting of the Abstracting Board, perhaps because he felt that I was underemployed once the main recommendations of the WFEO Task Group had been accepted. Another reason perhaps was that I have been associated with the Board, on and off, ever since its conception at the Conference on Users'Needs in Physics convened by UNESCO in Paris in 1948. During this time it has had its up and downs. At present it is very much on an "up", and I am perhaps lucky in that my present period of association with the Board began with the meeting in London that seems to me to make the beginning of this "up" stage".

The present meeting marked a good step forward, or even something approaching three good steps forward, in the work of the Board. What I think will be the most important of these is the "Blue Book", the scheme for compatibility at the input stage. I first heard of this at the Rome meetings of the Planning and Steering Committee, and at the time it seemed exciting but almost incomprehensible. Since then the Planning and Steering Committee has seen the scheme through four further drafts, of steadily increasing comprehensibility and simplicity, but without, I think, losing the first thrill. I hope

that those who have to put it into practice will feel something of the same enthusiasm. I don't want to continue the discussion of what UNISIST is, but perhaps I may describe the scheme as a poor means UNISIST, where poor means less costly by an order of magnitude. The scheme is I suppose, the collective responsibility of the Planning and Steering Committee, but it is no secret that Jeanne Poyen and Ron Smith have contributed most of the ideas and work. Now, having disposed of input, at least in principle, it is their - our - task to proceed to transformation and output. Ron Smith has refused to be drawn on the time scale, but we may hope for tangible progress on the second stage by the time of our meeting in the summer of 1971.

The second good step forward is our decision in principle to extend our activities into the various fields of engineering and to make a place for the World Federation of Engineering Organizations within our structure. This is something of an act of faith, and there may perhaps be a little uneasiness among the purer scientists. However, throughout my academic life, I have noticed how much more reasonable representatives of the sciences are than representatives of the humanities, and I have no doubt that it will be generally recognized as a necessary, advantageous and desirable step.

Now I come to the third step, or perhaps three-quarters of a step. I should regard as a small or half step our decision to make a place for National Members on the Board. The reason for this are partly to be in the fashion, and partly financial. But these are only partial reasons.

A further, and better one, is that national membership, backed by a properly constituted national committee, is a good way of ensuring that not only the Board but also Abstracting and Indexing Services within the country concerned receive adequate governmental recognition and moral support. This may in many cases be even more valuable than a slight thickening or lengthening of the shoestring upon which our President has informed us that we conduct our operations.

The remaining quarter step is the recommendations of the Planning and Steering Committee regarding the mission-oriented and not-for-profit services, thus ending our emphasis, in actual fact if not in theory, on field-oriented services. I have called these recommendations a quarter step forward, but as you all know the Full Board did not adopt them - they were referred back to the Planning and Steering Committee for further consideration. Insofar as I could judge the attitude of the Board, 83 % of the recommendations were acceptable and the rest dubious. Rather than trying to deal with a complex situation piecemeal, the Board preferred to have the complete problem brought before it again. The distinction between field-oriented and mission-oriented services is indeed somewhat difficult to maintain. The Chairman of our Committee on Statutes and By-Laws is on record as defining a field-oriented service as that mission-oriented service that got in first. This is a little cynical, but one could be even more cynical and define a field as a mission that has lost its orientation and become an end in itself. Or perhaps this is idealism rather than cynicism; geometry as a field is a greater aesthetic creation than is suggested by its origin in the mundane mission of replacing Field (I mean agricultural field) boundaries after floods.

I have just mentioned the Chairman of the Committee on Statutes and By-Laws. He has a busy time ahead of him, preparing a new constitution for us. This will have to take account of the World Federation of Engineering Organizations, of National Members, and of the recommendations of the Planning and Steering Committee. There is also the question of the future name of the Board. "Abstracting Board of the International Council of Scientific Unions" has gradually become unsuitable in any case, since we have been concerned with much in addition to abstracting, but with the changes I have just outlined the old name is quite unappropriate and a new one must be chosen. The Board has agreed, by a majority but without great enthusiasm, to use I N F I S (International Federation of Information Services), Some of us hope that something as accurate but more attractive will come up between now and our meeting in France next year, when the new Statutes will be considered. Our President has pointed out (not in his official capacity) that it is only too easy to transpose

INFIS

into

FINIS

FINIS is the end, and I have come to the end of my summary of this meeting. Before I sit down, however, I should like to mention another name suggested by the WFEO Task Group. This is the "International Board of Information Services". I like it because it retains the word Board, so long associated with our work, and is perhaps more accurate as a description than is Federation. The acronym

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is pleasant, as it is the name of an attractive bird, and its Latin associations suggest forward progress rather than termination.

During the latter part of our meeting we have had the pleasure and the benefit of the presence of Observers from many Organizations working in related fields. I won't attempt to list them all; you can determine at least their acronyms from the list of Participants. The opportunity we had of exchanging ideas and discussing problems has many advantages, tangible and intangible.

Finally I must say a word about the arrangements for our comfort and entertainment. I began by mentioning the UNESCO meeting in Paris in 1948. This was not long after the war, and arrangements left something to be desired. The hotel in which I have been booked had overbooked, and I spent the first night in a curtained-off alcove of what looked like a disused ball-room. For this I might blame the Conference Organizers. For my next discomfiture I can only blame my Canadian-American-British provincialism : the first article of food given to me was an artichoke. At the time this looked to me like a rather small edition of the top of a pine-apple, and there was nothing very obvious about it to eat. After some tuition I have come to appreciate this vegetable more. I am sure that nothing like this first experience has come the way of any of you at this most comfortable Center For Tomorrow, and that you will all join me in thanking Dale Baker and his staff at Chemical Abstracts Service for the excellent arrangements they have made for our working, sleeping, eating and entertainment.

239