RESUM — MEMORIA

"VIENNA CENTER'S VIth TRAINING SEMINAR

Moscow 5-9 April 1987

Information Needs, Problems and Possibilities in

Comparative Social Science Research

Teresa Torns

Josep Jiménez

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INTRODUCCIÓ

INTRODUCCIO

Aquest document recull el RESUM-MEMORIA de l'"International Training Seminar" celebrat a Moscou els dies del 4 al 10 d'abril de 1987 sota la temàtica "Information Needs, Problems and Possibilites in Comparative Social Science Research" i organitzat per EUROPEAN COORDINATION CENTRE FOR RESEARCH AND DOCUMENTATION IN SOCIAL SCIENCES (VIENNA CENTRE) i pel INSTITUTE OF SCIENTIFIC INFORMATION IN SOCIAL SCIENCES OF THE USSR ACADEMY OF SCIENCES (INION).

Recull el programa d'activitats desenvolupat, la llista d'assistents, la documentació de les ponencies presentades i les valoracions personals del Seminari.

En el programa de treball del Seminari es van realitzar dues visites al INION, que ens van permetre gaudir de la biblioteca de l'Institut, de consultar les seves publicacions sobre ciències socials i de fer pràctiques amb el seu equip informàtic: work processing amb microordinadors, consulta a bases de dades propies i accés a bases de dades de l'exterior.

Respecte aquest punt, dins de la documentació que s'adjunta, hi ha una ponència que explica les bases de dades de l'INION (vegeu: "Complex Information Services of Scientific Research", per U.A. ARCHANGELSAKAYA i S.V. BAZARNOVA).

L'INION va presentar una exposició de les diferentes publicacions estrangeres rebudes al seu Institut sobre documentació i investigació en ciències socials. Dintre d'aquesta exposició estaven presents els documents de la Fundació Bofill, Seminari Estudis de la Dona de la Universitat Autònoma de Barcelona, ATCA

ISOC i CIDC, que ens van permetre fer una petita explicació sobre la funció d'aquests centres dins del món de les ciències socials i concretament en l'àmbit de Catalunya.

Cal esmentar les reunions de tipus informal que es celebraven per part dels assistents al Seminari, intercanviant informació sobre les tasques que desenvolupaven en els seus països. Dintre d'aquest aspecte va quedar recollit l'esforç que dur a terme Catalunya en el camp de la investigació i documentació en ciències socials i l'alt nivell de desenvolupament sobre aquesta temàtica.

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13. 03. 87

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3. Palnikov M.S.
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5. Verchenov L.N.
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PROGRAMA D'ACTIVITATS

INFORMATION NEEDS, PROBLEMS AND POSSIBILITIES

IN COMPARATIVE SOCIAL SCIENCE RESEARCH

International Training Seminar

4-10 April 1987, Moscow, USSR

organised by the

European Coordination Centre for Research and

Documentation in Social Sciences (Vienna Centre)

local organiser

Institute of Scientific Information in Social Sciences

of the USSR Academy of Sciences (INION)

P R O G R A M M E

Saturday, 4 April

- Arrival of the participants in Moscow

  Checking-in at the Belgrade Hotel

Sunday, 5 April (Hotel Belgrade)

8.00 - Breakfast

9.00 - Opening of the seminar: Prof. Liparit Kiuzadjan (INION)

  - Welcoming addresses

  - Lecture: Research Process in International Comparative

    and Cooperative Research and Connected Information

    Needs: Prof. Jan Berting (Erasmus University,

    Rotterdam)

10.30 - Coffee break

10.50 - Lecture: <u>Information Needs in Social Sciences:</u> Dr. Karl

            Stroetmann (Information Centre for Social Sciences,

            Bonn)

          - Discussion

12.30 - Lunch

14.30 - Continuation of discussion

15.30 - Coffee break

16.00 - Lecture: <u>New Information Technology: State-of-the-art</u>

            <u>and Prospects</u>: Dr. William Khisamutdinov (INION)

          - Discussion

18.00 - Dinner

Monday, 6 April (Hotel Belgrade)

 8.00 - Breakfast

 9.00 - Lecture: <u>Some Problems of Scientific Information in</u>

            <u>Social Sciences - United Nations Experience</u>: Prof.

            Leszek Kasprzyk (Warsaw University)

          - Discussion

10.30 - Coffee break

10.50 - Lecture: <u>Linguistic Tools for Multilingual Bibliogra-</u>

            <u>phical Databases</u>: Dr. Robert Mdivani (INION)

          - Discussion

12.30 - Lunch

14.00 - Departure to INION

14.30 - Presentation of INION: Prof. L. Kiuzadjan. Visit to

            the exhibition of publications on social science

            information and documentation

15.30 - Coffee break

15.50 - Practical work in groups. Topics suggested for this work:

    1. Search of information in the main INION database

    2. Work with the database on social scientists

    3. Demonstration of the database on linguistics

17.30 - Departure to the hotel

18.00 - Dinner

Tuesday, 7 April (Hotel Belgrade)

 8.00 - Breakfast

 9.00 - Lecture: <u>Data Archives and Their Use</u>: Dr. Ekkehard Mochmann (Central Archive of Empirical Social Studies, Cologne) and Dr. Paul de Guchteneire (Steinmetz Archives, Amsterdam)

10.30 - Coffee break

10.50 - Discussion

12.30 - Lunch

14.00 - Departure to INION

14.30 - Lecture: <u>Microcomputers in Bibliographic Work</u>: Dr. Pal Vasarhelyi (Computer and Automation Institute, Budapest)

    - Discussion

15.30 - Coffee break

15.50 - Practical work in groups. Suggested topics:

    1. Use of personal computers for information processing and retrieval

    2. Demonstration of access to remote databases

        3. INION's system of complex information provision of

           research in the field of international economic

           relations

17.30 - Departure to the hotel

18.00 - Dinner

Wednesday, 8 April

 8.00 - Breakfast

 9.00 - Guided tour to Suzdal or Zagorsk

21.00 - Return to the hotel

       - Dinner

Thursday, 9 April (Hotel Belgrade)

 8.00 - Breakfast

 9.00 - Lectures: The Use of Computer-Assisted Information by

           Researchers and Decision-Makers: Prof. Tom Wilson (The

           Unviersity of Sheffield); Dr. Peter Hegedus (The

           Central Library of the K. Marx University of Economic

           Sciences, Budapest)

10.30 - Coffee break

10.50 - Discussion

12.30 - Lunch

14.00 - Open Forum: all lecturers and all participants

       - Conclusions: Mrs. Kirsti Thesen Saelen (The University

           of Bergen)

15.30 - Coffee break

16.00 - Approval of recommendations

18.00   -   Dinner

Friday, 10 April

    - Departure of the participants

PONÈNCIES PRESENTADES

Information Needs, Problems and Possibilities in
Comparative Social Science Research

PONÈNCIES PRESENTADES

- Information Needs in International Comparative and Cooperative Research. JAN BERTING (Erasmus University, Rotterdam).

- New Information Technology: state of the Art and Prospects. WILLIAM R. KHISAMUTDINOV (INION, Moscow).

- International Systems of Scientific Information in the United Nations. Dr. LESZEK KASPRZYK (Warsaw University, Poland).

- Complex Information Services of Scientific Research. V.A. ARCHANGELSKAYA; S.V. BAZARNOVA (INION, Moscow).

- An Attempt of Sociological Investigation into the Efficiency of Abstract journals Published by the INION of the URSS Academy of Sciences. A.ALIEV; A. ISAEV (INION, Moscow).

- Linguistic Tools for a Multilingual Bibliographic Data Base. ROBERT MDIVANI (INION, Moscow).

- Personal Computers as an Instrument of Efficient Operation of Information
  Retrieval Systems. A.L. GORIN; N.I. KOSSICHENKO (INION, Moscow).

- Microcomputers in bibliographic work. PAL VASARHELYI (Computer and
  Automation Institute, Budapest).

- The use of computer-assited information by researchers and decision-makers.
  TOM WILSON (Sheffiel University, UK).

- The use of computer-assisted information by researchers and decision-makers:
  an East-European view. PETER HEGEDUS (The Central Library of the K. Marx
  University of Economic Sciences, Budapest).

Vienna Centre's VIth Training Seminar, Moscow 5-9 April 1987, on:
Information Needs, Problems and Possibilities in Comparative Social
Science Research

'Information Needs in International Comparative and Cooperative Research'
by Jan Berting

1. Information Needs in international comparative and cooperative research
   in the social sciences are in many respects similar to those existing
   in the social sciences generally. In this contribution the information
   needs of cross-national comparative research and especially of inter-
   national comparative research will be discussed along the following
   lines:

2. Main characteristics of international comparative research (ICR) as
   an important branch of international comparative and cooperative
   research (ICCR).
   In contradistinction to descriptive character of the majority of ICCR
   studies ICR research emphasizes the context-bound character of social
   phenomena and the significance of this in the process of explanation.
   Especially this context-bound character of the social phenomena to be
   explained makes international cooperation an important prerequisite of
   this type of research.

3. Objectives of social scientists to engage in ICCR or ICR.

4. The main stages of the research process in ICR and their information
   needs.
   4.1. The preparatory stage
   4.1.1. The use of inventories and documentation on (current-research). The Role
   of the ECSSID Programme.
   4.1.2. The tracing of eligible partners in ICR.
   The Role of the Vienna Centre.
   4.1.3. The selection of countries for the research design. Information on
   national characteristics and on the significance of cultural boundaries.
   4.2. The development of the research design in international collaboration
   and concomitant information needs.

4.3. Problems in the conception stage:
   paradigmatic, semantic, classificatory, and organisational.

5. Information needs: some final remarks.

Information needs, Problems and Possibilities in Comparative
Social Science Research

Information Needs in International Comparative and Cooperative
Research

1. Introduction

Information needs in international comparative and cooperative
research in the Social Sciences are in several respects similar to
those existing in the social sciences generally. As the latter
will be discussed at some length in other lectures during this
seminar, I will restrict myself to the information needs which
prevail in international comparative and cooperative research.
That is not to say, however, that those needs are being exclusive-
ly tied to this type of research.

In this contribution the following questions will be discussed:
a) What do we understand by international comparative and coope-
   rative research in the social sciences?;
b) When and why do social scientists adopt a research strategy
   that is based on this type research?;
c) Which steps can be distinguished in the research process that
   are characteristic of international comparative and cooperative
   research (ICCR)?;
d) Which information needs come to the fore during the research
   process and which needs remain 'latent'?;
e) Can we identify some of the main problems which are connected
   with the solution of information needs in ICCR?;
f) In which ways will it be possible to solve the information pro-
   blems which are connected with information needs in ICCR?

2. Main characteristics of international comparative and cooperative research

A study is considered to be cross-national and comparative if two
or more countries or nations are compared in one or more respects.
This comparison may pertain to characteristics of the nations 'as
a whole' and/or to social and cultural phenomena which can be ob-
served within the national contexts (e.g. types of interaction
processes between individual actors, individiual attitudes,
aggregate characteristics of populations, characteristics of major
societal institutions, types of organisations, or of cultural sys-
tems or collective representations (value systems, images of
society or ideologies).

In many studies in the field of cross-national comparative re-
search the nations or countries which are part of the research
design are not treated as variables to be used in the process of
explaining similarities and differences which are observed between
nations or countries[1]. In such studies the comparison pertains
to 1) the classification of societies according to clusters of
major characteristics (e.g. 'socialist', 'class', 'pluralist' or,
'elite societies), 2) the ranking of societies (e.g. according to
the degree of openness of the stratification system, to the level
of expenditure on welfare provisions) or 3) inside variables of
the nations without relating them to the level of nations as such
(e.g. the comparison of organisations (meso level) or individual
opinions (micro level) within and between two or more societies).

These types of cross-national studies are primarily descriptive.
An example of the first type is Runciman's classification of power
relationships in six ideal types of industrial society and the
subsequent analysis of a number of industrial societies by means
of these types[2].

The second type is represented by studies in which the social
stratification systems of societies is compared in order to ascer-
tain differences between societies with respect to the effects of

social background or 'class' on educational and occupational attainment[3].

The third type of research is exemplified by the study of Harding and Phillips on Values in Western Europe. As these authors remark: 'One of our main aims, therefore, is simply to describe the broad features of the values of the European population as revealed by the Values Study. What do Europeans consider important in their lives? How are their values expressed in such areas as morality, religion and politics, at work, in the familiy, and in their personal lives? To what extent are values generally shared by people in Europe? How much do they differ?'.

The second and third types of cross-national comparative research depend very strongly on the application of survey methods and on the secondary analysis of survey data which are available in databanks.

Although these types of studies are oriented to the systematic description of similarities or dissimilarities between countries in the first place, they are not just atheoretical, although the theoretical assumptions often remain implicit as in the mobility studies to which we referred. Nevertheless, they are often based on general theories about the consequences of industrialization or modernisation. However, sometimes the cross-national comparisons are related explicitely to modernisation theory. So Kerr states that industrialism is having a logic of its own, whether under capitalism or socialism. 'Industrial society converges on what we called pluralistic industrialism, a type of society in which power (or at least influence) is shared formally or informally by political leaders, however chosen; by managers, whether of state or of private enterprises; by workers, whose consent must be obtained by contract or by assent on the job; and even by intellectuals and by trained professionals'[5]. In the process of industrial development societies are becoming more similar in many respects as a consequence of the adoption and utilization of the best available technology and its economic and social consequences. The cross-

national comparative method is used to prove that this convergence takes place and that pre-industrial social arrangements and value-patterns are crumbling away or changing in the direction that is indicated by the convergence thesis. On the other hand, several scientists who have as their main focus the analysis of the cultural order, point out that values and attitudes of peoples are not only resisting the convergence forces, but have themselves a specific impact on the nature and direction of industrial development. Moreover, the changing values of the peoples of all of the industrial societies 'may themselves be changing and diverging'[6].

Especially this debate between adherents of different types of industrial convergence theories and those who oppose them emphasises the need for theoretical designs in cross-national comparative research in which systematic attention is being paid to the context bound characteristics of social phenomena.

Once we bring in the context bound character of social phenomena as an important element in the process of explanation we are forced to analyse the specific relations between an observed social phenomenon and the characteristics of the social and cultural environment in which it is embedded. Instead of the rather loose way in which is referred to the societal context of those social phenomena which enter the comparative design in the above-mentioned cross-national studies, we have to specify the nature of the theoretical relations between different levels which we want to distinguish (i.e. individual opinions, types of organization, the specific institutional arrangements of different societies, value-systems or patterns conceived of as parts of a collective conciousness). Speaking about the information needs in cross-national comparative research I have in mind in the first place the information requirements of international comparative research[7].

The main objective of this type of research is the explanation or interpretation of similarities and differences which can be ob-

showing (almost) no variability within a specific society or culture, has a broader range of variability when a number of different societal types are being compared;

2. to explain or interpret phenomena by proceeding at two levels simultaneously: at the level of systems (or 'societal' level) and at the within-system level. Characteristics of a 'higher' level (e.g. the societal or macro-level are used to explain phenomena at a 'lower' level (e.g. types of organisation, behaviour patterns of individuals). It is assumed that the lower levels can be understood as being part of the higher level: the lower level phenomena are 'countext bound';

3. to cooperate with researchers and research teams engaged on similar research in other countries under different cultural, political and social circumstances. This cooperation may lead to a better understanding of the nature or the context bound character of the phenomena to be explained.

We are now in a good position to ascertain the main information needs wich are connected with the different stages of the research process on international comparative research.

4. The main stages of the research process in ICR and their information needs

4.1. The preparatory stage

Understandably, the information needs are very high in the very beginning of an international comparative project, say when an individual researcher considers the possibilities to engage on a cross-national comparative research project. The nature of his or her information needs depends to a certain degree on the primary research goals, on the explicitness of the problem within his or her international disciplinary community and on the nature of the already existing infra-structure. So a sociologist who wants to compare the development of intergenerational social mobility between his country and another during a certain period, is in a re-

latively comfortable position because there exists an effective
international network of researchers in the field of social mobi-
lity studies (the Research Committee on Social Stratification of
the International Sociological Association), the research problem
is part of one of the most standardized research field in the dis-
cipline, both with regard to theoretical models and research in-
struments.[12]

However, in many cases the research problem cannot be stated in a
very clear and theoretically refined way right from the beginning.
This is especially so when we want to explain certain social phe-
nomena the specific character of which is presumed to be context
bound. To give an example: we observe during a certain period that
the introduction and development of automation within industry in
our own country are related to specific consequences in the orga-
nisation of work. We may wonder whether the observed consequences
are caused by the nature of the technological development itself
or primarily by the social and economic conditions which accompany
the technological development and its consequences. It is evident
that this research problem which is not yet stated as a theoretical
one, is also highly relevant to policy-makers in this field.

In the fifteen nation study: <u>Automation and Industrial Workers</u>,
started by the Vienna Centre in 1972, the major hypothesis adopted
by the research teams was: 'that a country's political, economic
and social system will exist considerable influence both on the
process of introduction and development of automation, and on its
social consequences'.[13] In this study automation is the prin-
ciple variable, while work content, working conditions and
workers' attitudes are dependent variables. Important intervening
variables are also included, such as characteristics of the
workers, the plant, management system and unions.

Now imagine a researcher who ponders problems of this type: In
which ways do societal conditions have an impact on a social phe-
nomenon and with which consequences for the dependent variables a,
b,.... x?' He wants to adopt an international comparative re-

search design to answer this question. Which will be his main information needs in this stage? The following questions will be put forward.

4.1.1. Which are the research results in this field in other countries which may be included in the comparative design?

Are overviews available of current research pertaining to this problem? In this stage it is of course extremely helpful when answers to these questions can be obtained which are based on the results of international cooperation in the field of inforamtion exchange. To me this is one of the main goals of the European Cooperation in Social Science Information and Documentation (ECSSID) Programme which is coordinated by the Vienna Centre.

This programme has also resulted in the production of inventories of current research in several fields (e.g. the impact of technology on society[14]; the social integration of migrant workers and other ethnic minorities[15]).

The usefulness of those inventories depends strongly on two facts: 1. are the data on the countries included really representative for the total range of (ongoing) research in a given field in each country?; 2. are the data really up-to-date?

In many instances recent inventories do not exist and the researcher is left in a state of uncertainity concerning a possible interest of foreign researchers in the topic proposed by him. In those cases the researcher continues to look for other sources which can inform him about a) ongoing research related to his topic; b) the possibility that this type of research does not fit the social science research traditions in one or several countries; c) political constraints, which may be connected with the topic's content or the way the topic is phrased by its initiator.

We do not mean to say that only cultural differences are at stake here. There may be other important variables, partly related to the cultural differences, which have an impact on the degree of participation such as economic differences and related opportunities for funding, differences with respect to the scientist's autonomy in relation with policy-makers, language barriers etc.[19]

We conclude this paragraph with the remarkt that in most cases the countries' participation in ICCR is unequal as a consequence of (cultural) processes not yet well understood. Moreover, it is difficult to know already in the preparatory stage how to select the countries on the basis of the design's theoretical goals as the necessary information is not available in such a way that it can be handled in the research process.

The best way out of this dilemma is: a) to organize some preparatory meetings with those experts who are available and interested in the project and to have a systematic debate on the possibilities to avoid or correct a lopsided participation, b) to engage on projects which could shed more light on these types of problems. The results of those projects may contribute to the solution of the unequal participation in the long run. These projects could be undertaken under the leadership of the Vienna Centre and with the assistance of Unesco.

4.2. The conception stage of an ICCR-project

Once a researcher or a research team has succeeded to interest a number of researchers from other countries to participate, the urgent task those researchers are confronted with is to agree on the exact nature of the problem as stated in its original terms. In order to arouse interest of researchers in the preparatory task the initiators have to formulate the research problem in a rather general way. Once researchers enter the first stage (conception) of a truly cooperative project, they have to identify the exact nature of the problem and to develop a research design which

satisfies the participants. Also during this stage there are
information needs, many of which may be rather latent.

We cannot treat fully all of the problems during this stage, but
will restrict ourselves to give some indications. These are:
1. problems related to paradigmatic differences between the parti-
   cipants (e.g. differences between structuralist approaches in
   the social sciences and methodological individualistic
   approaches[20]);
2. problems related to semantic differences (the meaning of mea-
   nings[21]);
3. problems related to the different ways data are classified in
   the participating countries (e.g. data concerning unemployment,
   types of education, educational levels) and to the lack of
   standardisation of reliable social indicators;
4. problems related to the organisation of data banks and the le-
   gal restrictions which regulate their use. A full access to
   data sources (especially those data which are collected by go-
   vernments and agencies related to governments) and mutual in-
   ternational data exchanges contribute critically to ICCR, but
   are far from realised in many fields;
5. problems related to the international standardisation of re-
   search instruments and the development of other types of re-
   search instruments adapted to the exigencies of ICCR/ICR;
6. problems related to the organisation and coordination of ICCR/
   ICR (which type of the research process' organisation is the
   most adequate under the specific circumstances of a given pro-
   ject, e.g. taking into account different working habits and
   paces of life in different cultural areas?)[24].

Several of the problems mentioned seem to be related to the drop-
out of participants during the conception stage (esp. 1, 2, and 3)
and contribute to an aggravation of the onesided participation of
countries (see paragraph 4.1 3).

One of the important information needs in this stage of research
is caused by the absence of a handbook, systematically covering the

most important pitfalls and problems in ICCR/ICR and the ways to
advoid or to solve them.

5. Information needs: some final remarks

We will not discuss information needs connected with the data
collection, the analysis and the interpretation of the research
results, as these information needs and problems are not so diffe-
rent from other types of research during these stages.

A good collaboration does not imply a full consensus of all of the
participants, certainly not in the final stage. Such a consensus
is not really desirable, as part of the learning process during
ICCR/ICR is the growing awareness of the nature of the assumptions
of the participant living under different cultural and social con-
ditions and accustomed to other types of political and economic
arrangements. This awareness may lead to a better understanding,
not in the first place of the 'rationality' of the other partici-
pants, but of the nature of our own social arrangements.

In view of the problems which we discussed in this paper it is
obvious that many of the information needs in ICCR/ICR research
may be reduced by strengthening the international infrastructure,
both on the institutional level and the level of networks of
specialists. But, as we have seen, only this reinforcement will
not do. We also need a better utilization of the existing infra-
structure and its accumulated expertise. In line with this it is
urgent that ICCR/ICR-proposals, submitted to international coordi-
nation agencies (i.e. the Vienna Centre) will be better prepared
than they usually are. The enhancement of the proposals' quality
can be achieved by reflecting very systematically on the many
problems which are characteristic of the preparatory stage. The
nature of the solutions of these problems does have an irre-
versible and strong impact on the quality of later stages, es-
pecially in (theory-oriented) ICR. However, as we have seen, spe-
cific types of information are lacking in this preparatory stage.

The problems which are connected with this state of affairs can be reduced by the systematic utilization of the know-how which is accumulated in the international infrastructure and in the category of researchers which have been working in ICR-projects for longer periods. As most researchers have lacked opportunities to get in touch with ICCR/ICR research during their professional training as social scientists, the continuation and even the reinforcement of Vienna Centre's Training Seminars is one of the important requisites in this field. This extension of training facilities has to go hand in hand with the development of research models which fit the requirements of the various types of ICCR/ICR.

In the preceding pages emphasis is laid on several problems during the research process which are related to _differences_ between researchers meeting in international projects. But a clear fact is that researchers with different background are willing to put a lot of effort in ICCR/ICR. They are not only expecting rewards flowing from this cooperation but also, in many instances, _are intellectually_ and socially rewarded during this research process. ICCR/ ICR research is the international intellectual community in action _in spite of_ the many dividing lines which have to be crossed.[23]

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William R. KHISAMUTDINOV

NEW INFORMATION TECHNOLOGY:
State of the Art and Prospects

Different types of information centers exist- libraries, information institutes (secondary information services) and data archives. According to their types of activities they can be divided on those, which produce secondary information and those, which only organize services for users relying on the information in machine readable form produced by the former organizations (generators of information). In some cases these two types of activities are performed by the same organization. I didn't mention here such important function of information centers as publishing of secondary information.

Now few words about INION (Institute of Scientific Information on Social Sciences of the USSR Academy of Sciences). It is a unique organization which combines in one body all above mentioned types of activities: it is a big library with more than twelve million volumes holdings, it is an information center in which books and journal articles from all over the world are carefully analysed and processed and at the end it is a big publishing house annual printed production of which exceeds five thousand so called "quire sheets" forty thousand characters or 22 typed pages each. On the other hand INION performs functons of country's main social science information center and head organization of International information system on social sciences of Socialist countries (MISON).

R & D of library and information processes computerization were

launched in INION in 1976.Those participants of our seminar who took part in the first ECSSID conference watched our starting steps in this direction.Now INION is one of the leading organizations in this field in the USSR. Let me describe briefly our information products and services, information processing technology in a network environment, our efforts to survive in a decade of very fast advances of microelectronics and other components of new information technology.

Input information processing

Annual input into Automated Information System (AIS) reached 200-220 thousand documents. It includes all Soviet (more than 20 thousand) and foreign (about 23 thousand) books and the most important scientific articles from foreign (4500) and domestic (1500) serials received by the Institute. Distributed input technology provides input of book's bibliographic description on the third day after receiving. Two more days are spent for production of catalog cards on computers and phototypesetting machine. After receiving necessary quantities of catalog cards from the Institute's printing office books and cards are moved into special Preliminary information selection reading hall. In this hall all books and serials are displayed. Bibliographers and scientific officers from abstracting departments carefully look through all books and serials and select documents which are to be included into subject or regional monthly bibliographical bulletins or abstract journals. Serials with tagged articles are passed to special branch of Preliminary information

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processing department for input. Catalog cards for chosen articles are also produced. It is important to mention that all serial's titles are kept in a special authority file called "Electronic catalog of serials". So during input of article description one doesn't need keying serial's title. Instead only ISSN or internal sequential number should be input. The program reproduces in the record serials title taken from above mentioned electronic catalog. It saves operators efforts and time and reduces level of mistakes. Various types of formal and logical controls are also used. In order to simplify input operations special screens for different types of documents are designed. All input of bibliographic description is performed without worksheets. For input and editing information special "buffer" data base and input and correction processors were made. Now it's time to remind that all input information is used on a later stage for preparation of monthly bibliographical bulletins in which author names, book, serial and article titles are printed in original language. That's why we had to solve some special problems of character sets used in different countries. Up to now we considered problems of bibliographic description input. The following stage of information processing includes preparation of brief abstracts, assigning subject category (rubricator) codes and keywords to each item. Input of these fragments of records is performed from worksheets. Before input of these elements operator calls appropriate bibliographic descrition, adds to it additional elements and complete record is formed.

Preparation of bibliographies

According to rubricator codes all input records in a "buffer" data base are sorted and distributed for subsequent preparation of 30 monthly issues of subject and regional oriented bibliographical bulletins. Every bulletin contains not only bibliographic descriptions arranged according to rubricator codes but at the same time - additional author's and subject indexes and list of serials used. Two computers and phototypesetting machine are involved in preparation of bulletins. Much attention is paid to the quality of texts. Editing and proofreading of first output of Digiset 40T2 phototypesetting machine gives very high quality texts. Those who are interested to see details of input and preparation of bibliographies processes will have such possibility during your visits to INION.

Library automation

We are at the stage of pilot project of library automation. Starting with aquisitions subsystem in 1987 we are planning to have full scale library automation exept electronic catalog of all holdings at the end of 1990. We are not able and will not be able in foreseable future to realize retrospective conversion of all library card catalogs into electronic. But we will have electronic catalog of all books and serials received beginning from 1986. For automation of circulation and loan processes personal computer local networks and bar code readers will be used. We hope also to find ready software for library automation for our

Hewlett-Packard-3000 computer. It will save time and efforts.

We are looking forward for "know how" in using new hardware and software for library automation. All Union's Book Chamber begins to produce weekly magnetic tapes with bibliographic records of all books published in the USSR. If this product will prove to be timely and acceptable quality we will use it and save efforts of our personnel for keying cataloging information on Soviet books. We are also interested to try so called "BIBLIOFILE Catalog Production System". This includes an international standard compact laser disc drive (CD-ROM) with interface card and cable for IBM PC or compatibles, the BIBLIOFILE access software and users manual, the current BIBLIOFILE database on laser disc, and one year of support and maintenance. It is available for price of $3000. Annual subscription price for quarterly delivery of all LC English language cataloging on laser disc is $870. Monthly discs are available as additional $600 option. Idea of using it is quite simple - if we receive English language books later than appropriate laser discs we can use SDI mechanism. Such data elements as authors, titles and ISBN could be used as users profiles in SDI processor. When books arrive we input some abbreviated codes (for example ISBN) and if the description of received book is on disc operator keys in neccessary local data elements and input of this record is finished. It is clear now that such new hardware and software will certainly introduce deep changes into library and information automation projects.

Data bases

As I mentioned earlier our annual input approached by the end of 1986 more than 200 thousand documents. At this moment INION's data bases contain more than 460 thousand documents. All input information after editing and proofreading for preparation of bibliographies is converted into format of our "Search data bases". All data bases reside on magnetic discs of Hewlett-Packard 3000 Series III computer. We use MINISIS data base management system received from International Development Research Center (IDRC),Ottava, Canada. Neccessary improvements were introduced by INION's programmers in order for example to cope with Cyrillic character set as well as with Latin. Search data bases cover now the following subject and regional information: Economics and Demography, Philosophy and Sociology, Scientific Communism, State and Law, Science of Science, International Workers Movement,Problems of European Socialist Countries, Countries of Asia and Africa and Latin America. In a nearest future data bases on Linguistics, Literary Criticism and.Religion and Atheism will be open for users.Each record in a Search data base includes bibliographic description,brief abstract in Russian,rubricator codes,keywords (terms controlled by lists of normalised terms) also in Russian. Standard AND,OR,NOT logics and Right truncation are at the users disposal. All data bases are available for on-line local and remote users from 9 am till 9 pm all working days of a Week.Safety of our Search data bases is supported by weekly magnetic tape dumps of full contents of magnetic discs. The same procedure is applied to "Buffer" data base.

Networks

Complex of our Search Data Bases forms so called Central Computerized Data Base. 118 local and remote users from 84 organizations are switched to this Data Base. Among them 25 organizations in Moscow , 9 Soviet Republics, Regional Information Centers in Leningrad, Novosibirsk, Rostov on Don, Saratov, Sverdlovsk and 21 organizations in Socialist Countries- Bulgaria,DDR, Hungary,Cuba,Mongolia,Poland,Tchechoslovakia,Vietnam. We had also experimental access to our Data Bases from 2 organizations in Austria - IIASA and WSR (Computing Center for Economics and Social Sciences). Agreements on cooperation and working plans for 1986 between INION and both organizations were signed. We consider it as a very important event in East-West cooperation on problems of mutual access to information resources.

In a network under consideration different types of telephone channels are used. Some of them are special dedicated lines, the others are ordinary or switched telephone lines. Our International telecommunication system is supported by VNIIPAS (All Unions Institute of Applied Automated Systems) which is responsible for organizing international exchanges of information between Soviet and foreign information centers.We have five switched telephone channels for remote users. Now the traffic is not so heavy and this quantity is quite enough, but in the nearest future Protocol X-25 is planned to be installed. So it will be international packet switching Protocol X-25 and quantity of simultaneously working remote users will be considerably enlarged.

Problem of coverage of data bases is very important. Our appro-

ously working remote users will be considerably enlarged.

Problem of coverage of data bases is very important. Our approach to this problem includes an idea of decentralized input. Our partners in Soviet republics and in regional information centers must input all scientifically valuable information created by scientists of appropriate republic or region. The same approach is used for cooperation in MISON. We are working on development of so called "distributed" data bases. One of such data bases was created in Riga (Latvija). Our colleagues developed a data base "All about Latvija" and we had experimental access to this data base from INION. Data base on Balcan countries and Slavonic problems is planned to be developed in Bulgaria. And again new information processing technology using personal computers networks with high capacity magnetic or optical discs is promising for solving such tasks. But problem of organising remote access of network users to microcomputer data bases is still remains to be solved.

New technical advances put forward extremely complicated problems for information center's community. Let us discuss what will be possible influence of introduction of CD-ROM technology. It is well known that cost of telecommunications access to data bases depends on the distance. Duplicating of data bases on CD-ROMS may prove to be more cost effective for remote countries than telecommunications access. Such approach attracted attention of some organizations in Australia. They receive cataloging information from Library of Congress on CD-ROMS and rely their

library and information systems on these data bases. Video discs is another problem - we know how interesting and promising was British "Doomsday project". Our colleagues from Georgian Soviet Republic work on development of Archeological data base. If video disc technology could be used for that project it would be a new dimension in information systems because of very attractive combination of descriptions and colour images of archaelogical samples.

Extremely complicated organisational and technological problems are to be solved before large scale distributed input into our Centralised Data Base will be realised. List of such problems includes control of quality of input and preparation of abstracts and keywords in Russian which is quite a difficult problem for members of MISON countries. But if International information system is really our goal, if distributed input is really to be achieved then every partner of such cooperation must input information with abstracts and keywords in Russian -the working language of MISON. A lot of difficult problems to be solved concerning access to our data bases from non-Russian speaking countries - language barrier is quite a serious problem. Some of our plans include preparation of keywords in different non-Russian languages. This is not an easy problem. Its quite expensive. But it could be realized in the interests of International information exchange at least for part of our data bases.

Selective dissemination of information

INION organised off-line SDI for more than 700 users from 148

have one more interesting data base which is created by the Institute of Oriental Studies. They prepare and input documents themselves. The abstracts are much longer and include not only textual information but also quantitative data. It's a new form of cooperation.

We have quite many hardware problems. The most important is volume of disc space available. Our plans include using of optical discs. We have installed the first network of personal computers with dual language keyboard and dual language word processor. Using of PC networks opens up new perspectives for Information centers. New high capacity optical and magnetic discs are now available for PC-s. large data bases can exist at the desk. This is quite new information environment and we must learn how to live in it.

Only one problem I will touch at the end - a problem of primary documents. In our plans of widening information services much attention is paid to supplying of users with copies of primary documents. We are developing mechanism of ordering copies during telecommunications access to data bases. Of course supply of copies is quite expensive and we plan to introduce it on the principle of compensation of services.

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INTERNATIONAL SYSTEMS OF SCIENTIFIC INFORMATION IN THE UNITED
NATIONS
==

It is a well known fact that social, economic and cultural de-
velopment implies the practical application of existing knowledge
and experiences and cannot proceed without relevant information.

Information - as is stressed in some UNESCO documents[1] has be-
come an essential basis for the progress of civilization and socie-
ty. Lack of information and of effective means of exchanging it
are now widely recognized as being limiting factors in the econo-
mic and social development of peoples. Thus, the problem of infor-
mation is none other than the problem of managing mankind's know-
ledge - the collective memory which society must learn to control
effectively and utilize fully in order to progress.[1]

Owing to the decisive role of economic and technological advan-
ces in development the role of scientific and technological infor-
mation is enorm. It has been brought into a central position in
any system of information for development, the components of which
will all interact. In this context some general definitions of
scientific information as used in UN documents, may be quoted:

"information" is the content or message of a written or oral com-
munication or discourse;

"scientific information" is information arising from or pertai-
ning to research activities, usually in the natural and social
sciences. The research may be basic or applied; it may be explora-
tory, observational or experimental;

"technology" is scientific, engineering, managerial and other
knowledge necessary to produce the goods and services needed by
society;

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1/ UNESCO: Medium Term Plan 1977-1982, chapter. X.

"technological information" is information pertaining to technology;

"scientific information and technological information are thus interdependent and often carried by the same or similar media-books, periodicals, reports, etc. Also they are used together in development-catalysing activities. Hence, the phrase 'scientific and technological information'" /STI/.

Development also requires economic, social and cultural information, for example, population and commercial statistics. Such forms of information are also included, especially when term "information" is used instead of "scientific and technological information"[1]/

For social and economic development of different countries the question of great importance is not only scientific information as such but also the systems of information flows of various kinds, the optimum use of which conditions the application of science and technology to economic and social practise. These flows are established within national communities, between different countries and between regions through bilateral and multilateral relations. At national level, the organization of these flow is usually determined by science and technology policy. The participation of peoples in development calls for the dissemination of science and technology troughout society and for the integration of scientific culture into the social life and culture, specific to that society.

At international level the flow of scientific information is much more complex and needs collaboration of governments and international organizations. Besides, the flows of scientific information are at present unbalanced and originate from the wealth countrieswhich have technological facilities and a powerful scientific potential to poorer countries, where resources are limited. It should be kept in mind, however, that the right to information

1/ Intergovermental Conference on Scientific and Technological Information for Development - UNISIST II, UNESCO, 1979.

and to unrestricted access to the fund of knowledge and experience acculumulated troughout the world should be asserted, and adopted as a matter of principle in accordance with the objectives of a New International Economic Order. The international organizations of the United Nations System should play a special role in these efforts.

First information systems and services in the United Nations.

The rapidly growing number of scientific and technological innovations and new results in various fields led to unprecedented information explosion in the late 1950s . New information technology and itsㅡco-ordinated application was threatening to generate a new tower of Babel. Moreover it became obvious that no single country or a regional organization /European Economic Community, Council of Mutual Economic Assistance, Organization for Economic Co-operation and Development, etc./ could by themselves effectively master the information crisis. It became also clear that this task had to be shared internationally.

The United Nations activities in the field of information started in 1960s in two main areas:

a/ the information services established by various UN agencies with a view to facilitating scientific and technological information transfer. Those services are used for internal purposes or they are oriented towards countries or regions;

b/ the information programmes which are directed towards the development of information tools for concrete systems. They need the establishment of the necessary infrastucture, including training of specialized information manpower.

In the "Directory of United Nations Information Systems and Services" published in 1978 one can find a list of UN information activities, listing more than 100 information sources such as libraries, documentation services, clearing house and referral centres, inventories and data banks. The "Directory" includes also over 2500 local information centres in more than 150 countries, and national organizations contributing information to the various bodies of the UN system.

Some of these systems had from the beginning a decentralized global character and are known as international co-operative information systems and are missionoriented. They are based on a direct participation of all the nations in the process of information-system builéding and operation.

Each country participating in the international co-operative information programme agrees to review the pertinent sources of scientific information in its territory and to report such information to the central unit in the respective United Nations agency /WHO, IAEA, FAO,etc/. The agency distributes then the complete and processed information output or the part of it, to all the participants. Each country bears the cost of reporting information from its own territory but the total cost of participating in international exchange is small in comparison with the cost of maintaining the national data base, the benefits however are manifold. The interested United Nations agencies provide the systematic training programmes for the local staff, help to organize the national information centres and consult all important decisions on mamagement of the system with participating governments.

The following decentralized, co-operative information systems in the United Nations particularly deserve to be mentioned:

1. International_Nuclear_Information_System /INIS/ established by International Atomic Energy Agency in 1970. Among INIS partcipants are the countries as well as the international organizations. This computerized system covers the problems of peaceful use of the nuclear energy, and publishes a number of materials and information series like: INIS Newslette, INIS Data Base, Reference Series, etc.

2. Population_Information_Network /POPIN/ established by the Population Division of the United Nations. The activities of that system concern various demographic problems /migrations, population growth, etc./

3. International_Information_System_for_the_Agricultural_Sciences and_Technology /AGRIS/ organized in 1971 by FAO. AGRIS has been of great interest to many countries and has positively contributed to the development of national capabilities for handling agricultu-

ral kinds of information. Owing to its broad coverage /agricultural
sciences and technology/ and to the very large volume of informatio
items included, AGRIS has not been deployed as quickly as the nu-
cle-ar information system.

4. International_Referral_System_for_Sources_of_Environmental
Information /INFOTERRA/ - established in 1972 after the Stockholm
UN Conference on the Human Environment. It functions under the aus-
pices of the United Nations Environment Programme /UNEP/. INFOTERRA
does not itself collect environmental data but simply assists the
users by referring them to the most appropriate source for the nee-
ded information.

5. Industrial_Information_System /INDIS/ - established by UNIDO
in 1970, assists developing countries with the provision of indu-
strial information and serves the needs of planners, managers and
engineers. Subsequently UNIDO established the Industrial_and_Tech-
nological_Information_Bank /INTIB/ for selection and assessment
industrial information paricularly useful for making in developing
countries appropriate technology.

6. Patent_Information_Network /PIN/ - established by WIPO which
protects the intellectual property throughout the world. PIN con-
sists of the patent documentation and information system, operated
since 1945.

As it was shown above, within the United Nations System various
agencies and other organizations were dealing with questions of
scientific information during last 20 - 30 years. In different
fields of science some specialized information systems have been
functioning but their organization and effectiveness were very
differentiated. The overlapping of many problems in their activi-
ties was unavoidable. For those reason efforts have been made in
the United Nations /partcularly in UNESCO/ to review the possibi-
lity to establish one international information programme of a ge-
neral nature providing a conceptual framework for national and
international systems and creating the conditions for their inter-
connexion world-wide.

United Nations International Scientific Information System

Among the information programmes of the United Nations, UNISIST has been recognized as the only programme of a general character and a conceptual framework for information systems devised by the UN agencies. It was established by UNESCO with close co-operation of the International Council of Scientific Unions /ICSU/, which joined their forces in 1967 to prepare the UNISIST feasibility st udy.[1] The study was presented at the Intergovernmental Conference for the Establishement of a World Science Information System in 1971 and one year later the General Conference of UNESCO, at its seventeenth session launched officially the UNISIST programme.

The Conference resolution stressed that UNISIST must embrace the fundamental sciences, the applied sciences, technology and that it should subsequently be extended to the social sciences and humanities. The major specialized information systems, such as those in nuclear sciences /INIS/ and agriculture /AGRIS/ as well as environmental system INFOTERRA have accepted the conceptual framework of UNISIST programme.[2] The new Programme from its inception has provided advice and support to a number of existing information systems and has, as one of its principal objectives, the harmonization of information activities including those within the United Nations System.

In 1979 UNESCO organized the Intergovernmental Conference on Scientific and Technological Information for Development, known as UNISIST II. The Conference pointed again the intergovernmental character of UNISIST which was established to stimulate and guide voluntary co-operative actions by UNESCO member states, and by non-governmental organizations to facilitate access to and international flow of exchange of scientific and tachnical information. The main working document adopted by the Conference stressed that" "Despite early use of the terminology, 'UNISIST - World Scientific Information System', UNISIST

1/ Intergovernmental Conferermce on Scientific and Technological Information fo Development - UNISIST II, UNESCO 1979, p. VII.
2/ I.W. Tanaskovic, Information Systems, Pergamon Press 1986,

was from the beginning conceived as a long-term programme intended
to stimulate, facilitate and guide development of and co-opera-
tion among scientific and technical information services at the
national, regional and global levels. The principles on which it
queste and formulations for co-operation are based are applicable
to all fields of human knowledge and not to the scientific and
technological fields only."1/

UNISIST has continuously assisted the national Governments in
promoting the development of national information policies and
networks, especially in creating national focal points intended
to co-ordinate information resources and services and in provi-
ding liaison for regional co-operation. In this connection seve-
ral meetings and seminars have been organized, guidelines have
been published and pilot projects undertaken. Many of them have
been financed by the United Nations Development Programme /UNDP/.
The question of particular importance to UNISIST has been co-ope-
ration with the International Council of Scientific Unions /ICSU/
and its specialized bodies including the Abstracting Board /ICSU-
AB/, the Committee on Data /CODATA/ and the Committee on Science
and Technology for Development /COSTED/; the International Fede-
ration for Documentation /FID/; the World Federation of Enginee-
ring Organizations /WFEO/; the International Federation of Libra-
ry Associations and Institutions /IFLA/; the International Coun-
cil on Archives /ICA/ as well as the International Committee for
Information and Documentation in the Social Sciences.

Responsibility for the conduct of the UNISIST programme was
assigned at its outset to the Division of Scientific and Techno-
logical Information and Documentation in UNESCO's Science Sector.

The General Information Programme /PGI/ and the question of social
sciences.

UNESCO has accorded great importance not only to development
of the UNISIST programme but also to specialized information services

1/ Intergovernmental Conference on Scientific and Technological
Information for Development - UNISIST II, op. cit. p. 1.

within fields of its competence, either alone or jointly with
other UN organizations, some of them already in operation /earth,
water sciences, social and human sciences, education, etc./ or
in the process of being developed /human settlements, environment,
science and technology policy, culture, etc./.

At the nineteenth session of the UNESCO General Conference
in 1976 an over-all programme was defined and adopted as UNESCO's
General Information Programme /PGI/. The goals of the new Program-
me were following:

1. to promote th formulation of information policies at natio-
nal, regional and world levels;

2. to encourage the establishement of norms and their dissemi-
nation;

3. to assist in the development of national information infra-
structures and specialized international information systems,

4. to promote practical training and education of professionals
and users of information.

The creation of PGI has brought a number of benefits: it has
reduced the number of inconsistencies in UNESCO's dealings with
Member States on matters relating to information transfer; it has
provided for an integrated approach to information systems plan-
ning and development covering libraries and archives as well as
scientifc and technological information.

The unity of the human knowledge, and the fact that all fields
were caught up in the communications revolution, and that most
often, at national level, were strong arguments in favour of broa-
dening the scope of the programme. The extension of UNISIST to
other fields than the natural and applied sciences had been active-
ly discussed.

The social sciences were the first area beyond the natural
an/d applied sciences to which it was felt the UNISIST principles
might be applied. This step had been initially proposed by the
International Committee for Social Science Information and Docu-
mentation in 1971. Two years later, shortly after the programme
was formally established, UNESCO assembled a group of consultants

and based on their recommendations, a meeting of experts in so-
cial science documentation was held in 1974.[1/] The eighteenth
session of the General Conference authorized the Director-General
to encourage international co-operation in the social sciences
through imroved information and documentation services by develo-
ping the social science component of UNISIST. Responsibility for
this development is retained in UNESCO's sector of the Social
Sciences and their Applications. The second session of the Commit-
tee on Social Science Information in 1979 formulated recommenda-
tions on the pursuit of the over-all programme of Social Science
Information and Documentation and to ensure its optimal integra-
tion with the General Information Programme /PGI/.

Among the United Nations information systems which deal with
the social sciences and social problems the following ones deserve
to be mentioned:

1. DARE - Data Retrieval System for Documentation in the Social
and Human Sciences,
2. INED - World Information Network in Education,
3. DEVSIS - Development Sciences Information System, and
4. SPINES - International System for the Exchange of Informatio:
on the Application of Science and Technology to Development.

DARE - Data Retrieval System for Documentation in the Social
and Human Sciences

Established by UNESCO's Social Science Documentation Centre
in 1972. This centralized and computerized system collects various
information from the Member States with co-operation of national
centres of UNISIST. Its scope of activities covers the area of
social sciences, and in particular: sociology, political science,
demography, law and administration, philosophy, economics and
social policy. It also collects the bibliographic data and infor-
mation on social research, publications and social scientists in

1/ Meeting of Experts on the Problems and Strategies of Incorpora-
   ting the Social Sciences into the World Science Information
   System - St. Raphael, France, 1974.

different countries.

The creation and functioning of DARE was possible thanks to the assistance and co-operation of the International Social Science Council /ISSC/ and some other organizations, like: International Committee for Social Sciences Information and Documentation /ICSSID, European Coordination Centre for Research and Documentation in Social Sciences /Vienna Centre/ and recently Europe-an Conference on Social Science Information and Documentation /ECSSID/ and International Federation of Data Organization for the Social Sciences.

In 1975 UNESCO decided to organize the Data Bank for terminology in the social sciences which should help to establish the International System of Terminological Information in the social sciences /INTERCONCEPT/.

The principal publications of the DARE system and the information on its activities can be found first of all in the following periodicals: UNESCO Dare Information Notes, Dare Data Base, World List of Social Sciences Periodicals, International Social Sciences Journal, World Directory of Social Sciences Institutions.

INED - World Information Network in Education

Established in 1977 by the UNESCO's International Bureau of Education, collects and exchanges information and documents as well as referral information on the institutional sources of educational information. The scope of INED's activities covers: administration and organization, planning and policy, systems of education, comparative studies, non-conventional methods of education and the problems of the life-long education.

Under the auspices of the International Bureau of Education another information system, i.e. International Educational Reporting Service /IERS/ has been functioning since 1974. Its main goal is collecting information on the new educational methods, changes and development of education which might be applied in the developing countries.

The two above mentioned education information systems publish a number of periodicals and guiddlines, like: Cooperative Education Abstracting Services, IBEDOC Data Base, Innovation and many others.

DEVSIS - Development Sciences Information System

A feasibility study for the establishment of the information system for economic and social development was undertaken at the initiative of the International Development Research Centre /IDRC/ of Canada in 1975. It was co-sponsored by the United Nations Department of International Economic and Social Affairs, UNESCO, the International Labour Organization /ILO/, UNDP as well as the Organization for Economic Co-operation and Development /OECD/. The study report was published in 1976 and aroused great international support. The general feeling was that DEVSIS responded to an evident need, due to the lack of economic and social information services available to development planners and policy makers.

The main objectives of that new information system, are:

1. It should collect information from the whole world, regarding the social and economic development of different countries. All countries - and especially developging countries - will have the access to DEVSIS services,

2. DEVSIS will have a co-operative character pr-omoting the establishment of the national infrastructures in this field,

3. The exchange of information among participants will be co-ordinated by the world centre of DEVSIS, i.e. IDRC,

4. The system will collect bibliographic information on literature as well as the references on the sources of documents.

The new system should facilitate the transfer of scientific and technological information necessary for the developning countries for their enonomic development. This task, however, has not been fully achieved and actually some regional solutions have replaced the central information system.

SPINES - International System for the Exchange of Information on the Application of Science and Technology to Development

Established by UNESCO in 1970s for collecting, processing and disseminating world-wide, documents and factual data which have a direct bearing on policy-making, management and assessment in

the field of science and technology.

Its field of activities covers a variety of diciplines in the social and technical sciences: politics, sociology, economics, resources of science and technology, science of science, psychology of research, exchange of technology and its assessment,etc. SPINES is a co-operative and decentralized system where all participants are assisted in sharing the literature and basic data which they produce on question relating to science and technology policy. The exchange of information is encouraged among all countries, with special preference to the exchange among developing countries themselves. The input of information is completely voluntary and all participants have the full access to the output of the system.

SPINES system is composed 6f a small central processing unit under intergovernmental control and a number of national and regional units serving as delays in the input of information into the system and in the supply of specialized services to users. The structure of SPINES is decentralized for several reassons: collection of literature can be carried out more easily at the national and regional levels; the diversity of languages in which input documents are published makes decentralization a necessity for a muliligual system. Another reason is the creation of the team-s of highly qualified documentalists at national level who might help in other information activities on the spot.

Scientific information transmitted by the SPINES system is addressed first of all, to decision makers and managers concerned with sciehce and technology in governments, parliaments, universities, research institutes, enterprises, etc. As Ines Wesley-Tanaskovic pointed out in an expertise prepared for UNESCO, the SPINES information "can be divided into four major categories: theories and methods related to development of science and technology and their social impact; rosources of the scientific and technological potential of countries; practice of science and technology policy and management including technology forecasting, assessment and transfer; and general contents and societal results of scientific and technological plans, programmes projects and actions."[1]

[1] Ines Wesley-Tanaskovic - "Scientific and technological Information Systems for Development", United Nations, 1980, p. 429

Talking about SPINES as an information system one should keep
in mind also, that it helps to break down the obsolete barriers
which still exist among policy makers, economists and social scien-
tists on the one hand, and natural scientists and technologists on
the other.

General conclusions:

From the observations presented above the following conclusions
can be drawn:

1. The international exchange of scientific information not only
promotes the advancement of knowledge as such, but it is also a ma-
jor component of the complex body of accumulated socio-economic
reality in the contemporary world.

2. The flow of scientific information among different countries
and regions of the world is highly unbalanced. The access to this
information should be ensured and a special role in it may play the
international organizations.

3. The international systems of scientific information should
not be restricted to the natural sciences or some technological
questions. They must embrace all fields of human knowledge inclu-
ding social and human sciences.

4. Among the United Nations information programmes, UNISIST is
the only programme of a general nature being a framework for the
establishment of national and international information systems
and creating the conditions for their global interconnexion. It
covers practically all fields of science and cultural development.

5. To develop the international flow of information all countries
need a clearly formulated policy in the field of scientific infor-
mation which should be considered as an integral part of national
science and technology policy.

6. The establishment of a global mechanism for the unimpeded
flow of scientific information has been assigned to UNESCO which
organized or helped to create the majority of the United Nations
information systems in the field of social sciences, education and

culture as well as in the natural sciences.

7. The role of other United Nations Agencies and some other international organizations, like: ICSU, ISSC, Vienna Centre for Social Sciences, International Committee for Social Sciences Information and Documentation and others should be stressed in that regard.

8. The United Nations can help to create a global information network which will become a reality only when all countries are willing to co-operate and make substantial investments in their national information infrastructures. The establishment of such a global network may be possible only step by step and must engage the national scientific communities in respective countries.

Archangelskaya V.A.

Bazarnova S.V.

COMPLEX INFORMATION SERVICES

OF SCIENTIFIC RESEARCH

Theme: "International economic relations"

as the case.

1.DATA BASES ON ECONOMICS

4 Data bases cover literature on economics and demography.

I. BIBLIO — covers total flow of the Soviet literature and part of foreign literature from 1979 to 1981. Total volume is 59.000 documents.

II. BIBNEW — covers the same flow after 1982 up to date. Total database volume contains 221.000 documents, of them 125.000 on economics and demography.

III. BIBSOC — covers literature on European socialist countries, including on economics and demography. In this data base the documents from Bibnew data base are partially duplicated. This data base covers specific problems of international economic relations and economic development of individual European socialist countries. Nowadays the question of including this file of documents into Bibnew data base is under discussion.

Bibsoc covers approx. 15.000 documents on economics and demography.

IV. Data base on countries of Asia and Africa is formed by analogy to Bibsoc. This data base will operate in the middle of this year.

Depending on the content of query search can be made in limits of one of data bases as well as in several ones.

2.DESCRIPTION OF DOCUMENT FLOW

Document flow AISON on economics and demography covers

approx. 27.000 units annually. It consists of 2 parts:

1)<u>Soviet literature.</u> INION receives obligatory copies of publications on social sciences (monographs, magazines, newspapers). For data base on economics and demography the documents of scientific interest are collected. Thus the file of documents in INION is wider, than is presented in the information retrieval data bases.

Annual addition of Soviet literature on economics and demography is approx. 11.000 documents: books (collections, booklets, theses, unpublished documents) - 47%; articles (from collections, magazines, newspapers and other periodicals) - 53%.

2)<u>Foreign literature.</u> INION recieves the most part of significant scientific publications. They are fully put into retrieval data bases.

Annual addition of foreign literature is 16.000 references. Correlation of books and articles is accordingly 47% and 53%.

According to the language of documents information retrieval data base has the following structure:

documents in Russian	-	43%
English	-	35%
German	-	8%
French	-	6%
Spanish and Italian	-	2%
Slavonic	-	2%
others	-	4% *

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*) Here the documents in oriental languages are not included

3. FORMS OF INFORMATION SERVICES

Processing of documents in AISON is oriented on the following types of information services:

1) Printing of branch bibliographies "New Soviet literature on social sciences. Economy"; "New foreign literature on social sciences. Economy". Each edition is issued monthly.

2) Regional bibliographies:

"New Soviet and foreign literature on social sciences. European socialist countries. General problems"; "New Soviet and foreign literature on social sciences. Middle East. Africa"; etc. In all — 14 bibliographies. In these editions economics is presented in corresponding sections.

3) Nowadays it is planned to issue annual thematical and problem-oriented bibliographies.

4) Interactive information search in retrospective data bases and selective dissemination of information.

Variety of information services conditions quite a number of specific requirements to information processing and linguistic tools.

4.PROCESSING OF DOCUMENTS IN AISON

Processing of documents in AISON consists of 2 stages:

1) bibliographic description of documents;

2) documentary analysis.

Bibliographical record is a result of documentary analysis. Bibliographical record includes the following elements:

1) Title and annotation in a natural language. Foreign language documents are compulsory annotated. Russian documents are annotated if the title does not cover the content of the document with full precision.

2) Classificatory search patterns of a document (SPD). It consists of headings from branch and regional Rubricator. The form of headings are number indexes. Headings in the Rubricator are presented in Russian and in English. Each heading has its number index.

The Rubricator is a classificatory scheme. It is formed on the basis of Marxist-Leninist social science and reflects the development of society in different social and economic orders. The classification is flexible enough and includes the elements of non-Marxist economic schools and trends.

The main function of the Rubricator is the formation of bibliographies.

Records of bibliographical index are classified according to headings. Thus the Rubricator is a classificatory base for bibliographical edition. Besides it can be used for description of data base and for contents of magnetic tapes in cases of information exchange. In some cases it can be used for

information retrieval.

The Rubricator presents itself the language of a classificatory type with its values and pitfalls.

3) Descriptory search pattern of a document (SPD).

It is a combination of descriptors and keywords, provided with indicators of links and roles.

Descriptory SPD is the major tool for description of a content of document in the retrieval data bases. It is the basis for information retrieval and for formation of subject indexes to bibliographical editions.

Vocabulary of descriptory SPD includes descriptors and keywords. Descriptors are taken from the List of normalized lexical units (or vocabulary) [LNLU] for economics and demography (approx. 6.000 lexical units - descriptors and nondescriptors). LNLU includes descriptors and nondescriptors with their entries. In the descriptory entries relations of synonymy are presented and their semantics is normalized by means of different working definitions, methodical marks, etc.

Vocabulary considers to be settled as applied to given document flow. Unambiguity of descriptors' semantics is achieved. Generic, specific and associated relations will be included into descriptors entries at the next stage. Thus the list automatically turns into traditional thesaurus.

LNLU vocabulary includes totality of relevant Marxist-Leninist terminology, also the terminology of non-Marxist schools and trends necessary for documentary analysis of non-Marxist literature. Thus adequate documentary analysis of any scientific school and trend is achieved.

The keywords are those units of vocabulary that in principle cannot be fully normalized, viz. names of statesmen, scientists, etc., also names of different organizations, research programms, magazines, newspapers, etc. Special category of keywords present chronological data.

Keywords are normalized in documentary analysis according to methodical rules adopted in the system. The list of keywords is fixed in the system and it can be used in indexing. This list is included in each LNLU. In the process of SPD descriptor formation each keyword should be identified with the list of proper names.Descriptor SPD includes a keyword and a name of a corresponding category.

In the retrieval data base and in SPD the keywords function as descriptors.

Thus all lexical units of descriptor SPD — descriptors and keywords — are normalized, and this provides efficiency of retrieval. The difference between descriptors and keywords lies in the following: descriptors normalization is made preliminary on the level of LNLU and keywords normalization — on the level of documentary analysis.

5.FORMATION OF A DESCRIPTOR SEARCH PATTERN OF A DOCUMENT (SPD)

Descriptor SPD consists of the following components:

1)Descriptors and keywords, covering the content of the document.

Descriptors are taken from LNLU (lexical-semantic, systematic, permutated indexes, auxiliary facets). Keywords are taken from the text of the document and they are normalized according to methodical rules accepted in the system. Each research item can be presented by one descriptor (keyword) or by a combination of descriptors (keywords).

2)Indicators of links and roles.

Indicators of links and roles are used for division of descriptors SPD according to thematical groups. In one thematical group to each descriptor (a keyword) is given an indicator of role. Roles allow to divide all descriptors (keywords) according to the subject-index and to form related subject headings within each thematical group.

In future it is supposed to use roles and links in information retrieval.

3)Aspect descriptors.

Aspect descriptors are used to reflect an aspect of the problem.

8 aspects are singled out:

T — theoretical aspect of analysis;

M — research on the international level;

C — research on the country level;

Л — research on the local level;

O   –   research on the branch level;

П   –   research of the object in relation to a concrete person;

A   –   research of the object in relation to a concrete organization; research programm; etc.;

X   –   chronological aspect (up to 1980).

6..INFORMATION SERVICES

Information services in the system are carried out in following directions:

1) Issue of traditional bibliographical indexes. The edition of Soviet economic literature covers 1770 copies, foreign — 1120. Publications are distributed through subscription to research institutions and higher schools libraries and information centers of this country and abroad.

2) Operational SDI services.

Research institutions, higher schools, directing agencies, etc. are users of this type of services. Now SDI services are carried out at 354 requests of 243 users from 73 organizations.

3) Information retrieval from retrospective data bases.

In 1986 150 queries were served. Also users themselves carry out interactive information retrieval from retrospective data bases.

Besides, INION data bases carry out information services in a network of the State automatized system of scientific and technical information (SASSTI) and MISON. SASSTI system includes Soviet research institutions and higher schools (43 organizations). MISON system carries out information services for experts from participation countries through national networks (in operational regime — CSSR, Bulgaria, Vietnam, Cuba, Mongolia; in experimental regime — GDR, Hungary, Poland (24 foreign organizations).

APPENDIX 1

Rubricator on economics and demography

Rubricator is a hierarchical classificatory system. The depth of hierarchy fluctuates from 4 to 8 levels depending on the problems. Classification is based upon principles of Marxist-leninist social science. But for adequate presentation of other scientific schools and trends the classification includes some fragments of the concept system of non-Marxist schools and trends. Thus the classification system of the Rubricator is an objective reflection of concept systems in economics. The division into major items is made by the following systembuilding features: methodology of research, methods of concrete economic analysis, time and space parameters of research, levels of research of economic phenomena.

Thematic scope of the Rubricator can be described by first level headings.

The first level includes the following items:

Marxist-Leninist political economy;

Non-Marxist political economy;

History of economic thought;

Management science. Accounting sciences;

Economic geography;

Economic history;

World economy. International economic relations;

World socialist economic system;

World capitalist economic system;

Economy of developing countries;

Territorial structure of economy. Regional economy;

Sectoral structure of economy. Branch and specialized economic sciences;

Economics and organization of enterprise. Management of an enterprise;

Economies of individual countries.

The Rubricator is formed on the facet principle, i.e. analogous headings can be found on different hierarchical levels. It can be illustrated by topic "International economic relations".

The documents covering this topic can be put into different headings of the first level depending on the content of these documents. However within each heading of the 1-st level, sequence of subheadings is identical. Analogous subheadings in each range of hierarchy are arranged at the same level.

For above-named topic the sequence of headings is the following:

General problems of world economy (or world socialist economy, or world capitalist economy, or developing countries);

International division of labour;

International economic relations (at the global level, in the frame of world socialist economy, world capitalist economy and developing countries);

International trade;

Scientific and technical cooperation;

International production cooperation;

International payment, credit and monetary relations.

Naturally, within each first-level-section, storing of

headings is not identical (both in quantitative and qualitative respects) because it reflects specificity of relations in each type of economy and peculiarities of development of global economic relations. Thus in heading "World economy. International economic relations" the sections "World natural resources", "World food situation" are singled out. In these sections those documents are collected that reflect the problems on the global scale. Also the section "International economic organizations and associations" is singled out. Here the documents on economic activities of UN and its agencies are mainly collected.

In this heading the sections are singled out where the documents concerning relations between different types of economy are collected (i.e. between socialist and capitalist countries, between socialist and developing countries).

Headings "World socialist economy", "World capitalist economy" and "Economy of developing countries" cover the sections where the documents on economic integration are collected. However the content of subheadings included in headings are not identical as well as their number. It reflects a different character and stage of integration process development in each type of economy. At the same time on the global level this problem does not exist yet.

The heading "World socialist economy" covers subheadings, which reflect specific character of socialist economic integration, activities of COMECON.

Accordingly , the heading "World capitalist economy" includes subheadings for classification of documents on the

problems of capitalist economic integration and other specific problems of this type of economy: export of capital, economic expansion, MNC activities.

The topic of international economic relations is not covered only by above-named headings of the Rubricator, where the main file of documents on this problem is collected. The documents on theoretical analysis of this problem are also included under the headings "Marxist-Leninist political economy", "Non-Marxist political economy". Documents of historical character are collected under heading "Economic history". Selected aspects of foreign economic activities on a country level (e.g. overseas trade, monetary relations, foreign and overseas tourism) are collected under heading "Economy of individual countries".

APPENDIX 2

Lexical-semantic index on economics and demography

.LSI on economics and demography covers approx. 6.000 lexical units. Vocabulary is formed on the basis of the results of real indexing of documents in experimentsl and operational regimes (on the file of approx. 160.000 documents). Vocabulary has been stabilized.

LSI covers descriptors and nondescriptors with their entries. Entry of a descriptor includes the following elements:

1) descriptor;

2) indexes of headings of a branch rubricator;

3) semantic marks, working definitions, methodical marks, etc.;

4) synonyms.

E.g.:

foreign economic relations

065151; 06515190; 06551505; 06571705; 065905

SN (use for reflecting relations of an individual country on international level; for relations between two countries use <bilateral foreign economic relations>; for overseas operations of firms and other national economic organizations use <international operations>

UF foreign economic connections

Entry of a nondescriptor covers the following elements:

1) nondescriptor;

2) substitute descriptor/descriptors (including descriptors, alternative descriptors, combination of descriptors).

At the next stage of research, relations between generic -specific and associated descriptors will be established. Thus the thesaurus will be formed.

LNLU includes the following elements:

1) Lexical-semantic index.

Here descriptors and nondescriptors with entries are presented in alphabetic order.

2) Classificatory index.

It contains descriptors with entries, regulated according to branch Rubricator.

3) Permutated index.

It contains all descriptors and nondescriptors (without entries) in alphabetical order.

4) Auxilliary facets.

Each facet contains all descriptors and nondescriptors of the same semantic category, arranged in alphabetical order. LNLU includes the following facets:

1. Sectors of economy.

2. Products.

3. Natural resources.

4. Employees.

5. Enterprises and organizations of economy.

6. Monetary units.

7. International organizations.

8. Political parties.

9.   Trade union confederations.

10. Departments and agencies.

11. Political-geographic facet.

5) List of proper names.

It contains enumeration of categories of proper names that should be used as keywords. The names of these categories also function as descriptors in LNLU indexes.

For LSI illustration in Appendix 4 there is a sample of descriptors (without entries) on the topic "International economic relations". The number of specific descriptors used in indexing of the documents on this topic is 279, including 78 descriptors on general problems; 53 - on international trade; 19 - scientific and technological relations; 24 - production cooperation; 84 - monetary and financial relations; 21 - theoretical problems of international economic relations.

In real indexing much more descriptors are used from auxiliary facets, e.g. names of monetary units; names of products and commodities; names of sectors of economy; names of international organizations and integrational associations; names of countries and world regions.

Besides this special vocabulary, lexical units from other topics of economic science are also used. This vocabulary is widely used in indexing the documents on the problems of economic integration.

МЕЖДУНАРОДНЫЕ ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ

INTERNATIONAL ECONOMIC RELATIONS

Общие вопросы

General Problems

1. внешнеэкономическая политика	- foreign economic relations
2. внешнеэкономические организации	- foreign economic organizations
3. внешнеэкономические отношения	- foreign economic relations
4. внешнеэкономические санкции	- foreign economic sanctions
5. внешнеэкономические соглашения	- foreign economic agreements.
6. внешнеэкономическое положение	- international economic situation
7. военная помощь	- military aid
8. встречи на высшем уровне	- summits
9. глобальные проблемы экономического развития	- global problems of economic development
10. двойное налогообложение	- double taxation
11. двусторонние внешнеэкономические отношения	- bilateral economic relations
12. зарубежный туризм	- overseas tourism
13. иностранный туризм	- foreign tourism
14. интеграционные объединения	- integration organizations
15. колониализм	- colonialism
16. колониальная система	- colonial system
17. линейное судоходство	- linear shipping
18. межгосударственное регулирование	- intergovernment regulation
19. международная безопасность	- international security
20. международная напряженность	- international tension

21. международная разрядка	— international detente
22. международная регламентация	— international regulation
23. международная стандартизация	— international standardization
24. международная экономическая безопасность	— international economic security
25. международная экономическая	— international economic aid
26. международное движение рабочей силы	— international migration of labour force
27. международное морское право	— international law of sea
28. международное речное судоходство	— international river shipping
29. международное разделение труда	— international division of labour
30. международное капиталистическое разделение труда	— international capitalist division of labour
31. международное социалистическое разделение труда	— international socialist division of labour
32. международное сотрудничество	— international cooperation
33. международное экономическое сотрудничество	— international econoimic cooperation
34. международные внешнеэкономические соглашения	— international economic agreements
35. международные монополии	— multinational enterprises
	— international monopolies
	— international business enterprises
	— transnational corporations
36. международные операции	— international transactions

37. международные организации	— international organizations
38. международные программы	— international programs
39. международные соглашения	— international agreements
40. международные сопоставления	— international comparisons
41. международные трудовые стандарты	— international labour standards
42. международные хозяйственные организации	— international economic organizations (CMEA)
43. международные экономические организации	— international economic organizations
44. международные экономические отношения	— international economic relations
45. международные экономические программы	— international economic programs
46. международные экономические санкции	— international economic sanctions
47. международный арбитраж	— international arbitration
48. мировое хозяйство	— world economy
49. мировое капиталистическое хозяйство	— world capitalist economy
50. мировое социалистическое хозяйство	— world socialist economy
51. мировое экономическое развитие	— world economic development
52. мировой океан	— Ocean
53. мировой продовольственный вопрос	— world food problem
54. мировые природные ресурсы	— world natural resources
55. мировые экономические кризисы	— world economic crisis
56. научно-технический прогресс	— scientific-technological

progress

57. национальная безопасность	— national security
58. "неоглобализм"	— "neoglobalism"
59. неоколониализм	— neocolonialism
60. неправительственные между- народные организации	— nongovernmental interna- tional organizations
61. новый международный экономический порядок	— new international economic order
62. освоение космического пространства	— space activities (space economics)
63. политика развития	— development policy
64. разоружение	— disarmament
65. сопоставления	— comparisons
66. сырьевые кризисы	— raw materials crisis
67. топливно-энергетические кризисы	— energy crisis
68. "утечка умов"	— "brain drain"
69. экологический кризис	— ecology crisis
70. экономическая безопасность	— economic security
71. экономическая взаимозависимость	— economic interdependence
72. экономическая дискриминация	— economic discrimination
73. экономическая интеграция	— economic integration
74. экономическая помощь	— economic aid
75. экономическая экспансия	— economic expansion
76. экономические санкции	— economic sanctions
77. экономическое сотрудничество	— economic cooperation

ТЕОРЕТИЧЕСКИЕ ПРОБЛЕМЫ

THEORETICAL PROBLEMS

1. "глобальная взаимозависимость" — "global interdependency"

2. интернационализация производства (кап) — production internationalization (cap)

3. интернационализация производства (соц) — production internationalization (soc)

4. капиталистическая экономическая интеграция — capitalist economic integration

5. международная специализация (кап) — international production specialization (cap)

6. международная специализация (соц) — international production specialization (soc)

7. международная торговля (кап) — international trade (cap)

8. международная торговля (соц) — international trade (soc)

9. международное кооперирование (кап) — international production cooperation (cap)

10. международное кооперирование (соц) — international production cooperation (soc)

11. межимпериалистические противоречия — interimperialistic contradictions

12. неравномерность развития — unequality of development

13. неэквивалентный обмен — nonequal exchange

14. "периферийный капитализм" — "periphery capitalism"

15. "региональная интеграция" — "regional integration"

16. социалистическая экономическая интеграция — socialist economic integration

17. "условия торговли" — "terms of trade"

18. экономическая интеграция   — economic integration of

     развивающихся стран   — developing countries

19. экономическая зависимость   — economic dependence

20. экономическая отсталость   — economic underdevelopment

21. экономическое соревнование   — economic rivalry of

                    two systems

МЕЖДУНАРОДНАЯ ТОРГОВЛЯ

INTERNATIONAL TRADE

1. антидемпинг	– antidumping
2. аукцион	– auction
3. бойкот (экон)	– boycott (econ)
4. взаимная торговля	– countertrade
5. внешнеторговая политика	– foreign policy
6. внешнеторговые барьеры	– foreign trade barriers
7. внешнеторговые операции	– foreign trade transactions
8. внешнеторговые организации	– foreign trade organizations
9. внешнеторговые перевозки	– foreign trade transportation
10. внешнеторговые платежи	– foreign trade payments
11. внешнеторговые преференции	– foreign trade preferences
12. внешнеторговые противоречия	– foreign trade contradictions
13. внешнеторговые соглашения	– foreign trade agreements
14. внешнеторговые цены	– foreign trade prices
15. внешнеторговый арбитраж	– foreign trade arbitration
16. внешнеторговый баланс	– balance of foreign trade
17. внешнеторговый кредит	– foreign trade credit
18. внешний рынок	– foreign market
19. внешняя торговля	– foreign trade
20. демпинг	– dumping
21. зоны свободной торговли	– free trade zones
22. двусторонние внешнеторговые соглашения	– bilateral foreign trade agreements
23. импорт	– import

24. импортная политика	– import policy
25. импортные товары	– imported commodites
26. импортные цены	– import prices
27. компенсационные сделки	– compensatory transac- tions
28. либерализация внешней торговли	– foreign trade libera- lization
29. международные внешнеторговые соглашения	– multilateral foreign trade agreements
30. международные перевозки	– international trans- portation
31. международные торгово- промышленные выставки	– international commer- cial exhibitions
32. международные ярмарки	– international fairs
33. мировой рынок	– world market
34. мировой товарный рынок	– world commodity market
35. мировые цены	– world prices
36. "невидимая торговля"	– "invisible trade"
37. "невидимый импорт"	– "invisible import"
38. "невидимый экспорт"	– "invisible export"
39. нетарифные барьеры	– non-tarif barriers
40. протекционизм	– protectionism
41. принцип наибольшего благоприят- ствования	– favoured nation treat- ment
42. таможенные барьеры	– customs barriers
43. таможенные пошлины	– customs duties
44. таможенные союзы	– customs unions
45. таможенные тарифы	– trade tariffs
46. торги	– tender

47. торгово-промышленные выставки — commercial exhibitions

48. торговые марки — trade marks

49. транзитная торговля — transit trade

50. экспорт — export .

51. экспортные товары — export commodities

52. экспортные цены — export prices

53. эмбарго — embargo

НАУЧНО-ТЕХНИЧЕСКОЕ СОТРУДНИЧЕСТВО
SCIENTIFIC-TECNOLOGICAL COOPERATION

1. выбор технологии — choice of technology

2. двусторонние лицензионные — bilateral licencing
   соглашения — agreements

3. импорт технологии — technology import

4. лицензии — licences

5. лицензионные соглашения — licencing agreements

6. международная патентно- — international trade
   лицензионная торговля — in patents and licences

7. международное научно- — international scientific-
   техническое сотрудничество — technological cooperation

8. международные лицензионные — international licencing
   соглашения — agreements

9. "надлежащая технология" — "appropriate technology"

10. научно-техническая помощь — scientific-technological aid

11. научно-техническая зависимость — scientific-technological
    dependency

12. научно-технический разрыв — scientific-technological gap

13. научно-техническое сотруд- — scientific-technological
    ничество — cooperation

14. научно-техническая политика — scientific-technological
    policy

15. патентно-лицензионная торговля — foreign trade in patents
    and licences

16. патенты — patents

17. передача технологии — transfer of technology

18. промышленная собственность — industry property

19. экспорт технологии — technology export

МЕЖДУНАРОДНЫЕ ПРОИЗВОДСТВЕННЫЕ СВЯЗИ

INTERNATIONAL PRODUCTION COOPERATION

1. вывоз капитала
— capital export

2. зарубежные вклады
— outward deposits

3. зарубежные капиталовложения
— outward investments (investments abroad)

4. зарубежные портфельные инвестиции
— outward portfolio investments

5. зарубежные предприятия
— branch companies

6. зарубежные прямые капиталовложения
— outward direct investments

7. иностранные вклады
— foreign deposits

8. иностранные капиталовложения
— foreign investments (inward investments)

9. иностранные портфельные инвестиции
— foreign portfolio investments

10. иностранные предприятия
— foreign enterprises

11. иностранные прямые капиталовложения
— foreign direct investments

12. интернационализация капитала
— capital internationalizaion

13. интернационализация производства
— production internationalization

14. международная специализация
— international production specialization

15. международное движение капитала
— international capital movements

— capital flows

	- capital mobility
	- capital transfers
	- repatriation of capital
16. международное кооперирование	- international produc-
	tion cooperation
17. международные монополии	- multinational enter-
	prises
18. международные подряды	- international
	sub-contracting
19. международные проекты	- international projects
20. портфельные инвестиции	- portfolio investments
21. прямые капиталовложения	- direct investments
22. расчетные цены	- transfer prices
23. совместные капитальные вложения	- joint investments
24. совместные предприятия	- joint ventures

МЕЖДУНАРОДНЫЕ ВАЛЮТНО-ФИНАНСОВЫЕ ОТНОШЕНИЯ

INTERNATIONAL MONETARY RELATIONS

1. банки развития — development banks
2. валюты — currencies
3. валютная интеграция — monetary integration
4. валютная оговорка — exchange risk
5. валютная политика — monetary policy
6. валютное законодательство — monetary laws
7. валютное замещение — currency substitution
8. валютное хеджирование — exchange hedging
9. валютно-финансовые кризисы — monetary crisis
10. валютные блоки — monetary unions
11. валютные доходы — foreign exchange income
12. валютные зоны — monetary areas
13. валютные операции — foreign exchange operations
— international monetary operations
14. валютные отношения — monetary relations
15. валютные резервы — monetary reserves
— (foreign exchange reserves)
16. валютные соглашения — monetary agreements
17. валютные спекуляции — monetary speculations
18. валютный курс — exchange rate
19. валтный рынок — exchange market
— foreign exchange market
20. внешнее финансирование — external financing
21. внешние долги — external debts

22.внешние займы	— external borrowing
23.внешний банковский кредит	— external bank credit
24.внешний кредит	— external credit
25.внешние банковские операции	— external bank operations
26.двусторонние валютные отношения	— bilateral monetary relations
27.двусторонние валютные соглашения	— bilateral monetary agreements
28.двусторонние кредитные отношения	— bilateral credit relations
29.двусторонние кредитные соглашения	— bilateral credit agreements
30.двусторонние финансовые отношения	— bilateral financial relations
31.девальвация	— devaluation
32.девизная политика	— foreign exchange policy
33.демонетизация золота	— demonetization of gold
34.дисконтная политика	— discount policy
35.долговые кризисы	— debt crisis
36.евровалюты	— eurocurrencies
37.еврокредит	— eurocredit
38.еврооблигации	— eurobonds
39.европейская валютная система	— European monetary system
40.еврорынок	— euromarket
41.золотой стандарт	— gold standard
42.клиринг	— clearings — (clearing systems)
43.кредитные отношения	— credit relations
44.кредитные соглашения	— credit agreements

45. кредитоспособность	- creditibility
46. межбанковские связи	- interbank relations
47. международная ликвидность	- international liquidity
	- (international monetary liquidity)
48. международное финансирование	- international finan-cing
	- (development financing)
49. международные банки	- international banks
50. международные банковские операции	- international banking operations
51. международные валютные отношения	- international monetary relations
52. международные валютные резервы	- international monetary reserves
53. международные валютные согла-шения	- international monetary agreements
54. международные займы	- international loans
	- international borrowing
55. международные кредитные деньги	- international credit money
56. международные кредитные отно-шения	- international credit relations
57. международные кредитные согла-шения	- international credit agreements
58. международные платежи	- international payments
59. международные финансовые операции	- international financial operations

60. международные финансовые отно-   — international financial
    шения   relations

61. международные финансовые органи-   — international financial
    зации   organizations

62. международные финансовые центры   — international financial
                                         centres

63. международный банковский кредит   — international bank
                                         loans

64. международный валютный рынок   — international exchange
                                         market

65. международный кредит   — international credit

66. международный рынок капитала   — international capital
                                         market

67. мировая капиталистическая   — world capitalist mone-
    валютная система   tary system

68. мировая социалистическая валют-   — world socialist
    ная система   monetary system

69. монетарное золото   — monetary gold

70. монетарное серебро   — monetary silver

71. обратимость валют   — convertibility

72. паритет покупательной силы   — purchasing power parity

73. переводной рубль   — transferable rouble

74. плавающий валютный курс   — floating exchange rate

75. платежный баланс   — balance of payments

76. процентная ставка   — interest rate

77. ревальвация   — revaluation

78. резервные валюты   — reserve currencies

79. специальные права   — special drawing rights
    заимствования

80. спрос на капитал — capital demand

81. счетные деньги — international currency
units

82. фиксированный валютный курс — fixed exchange rate

83. финансовые отношения — financial relations

84. экю — ecu

A065141   МЕЖДУНАРОДНОЕ ОБЩЕСТВЕННОЕ РАЗДЕЛЕНИЕ ТРУДА
             INTERNATIONAL SOCIAL DIVISION OF LABOUR

A065151   МЕЖДУНАРОДНЫЕ ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ
             INTERNATIONAL ECONOMICRELATIONS

A06515107   МЕЖДУНАРОДНЫЕ ЭКОНОМИЧЕСКИЕ ОРГАНИЗАЦИИ И ОБ'ЕДИ-
             НЕНИЯ
             INTERNATIONAL ECONOMIC ORGANISATIONS AND ASSOSIATIONS

A0651510735 ЭКОНОМИЧЕСКАЯ ДЕЯТЕЛЬНОСТЬ ООН
             UNITED NATIONS ECONOMIC ACTIVITY

A065151073511 ГЕНЕРАЛЬНАЯ АССАМБЛЕЯ ООН
              UNITED NATIONS GENERAL ASSEMBLY

A065151073513 КОНФЕРЕНЦИЯ ООН ПО ТОРГОВЛЕ И РАЗВИТИЮ
              UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

A065151073515 ОРГАНИЗАЦИЯ ООН ПО ПРОМЫШЛЕННОМУ РАЗВИТИЮ
              UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

A065151073517 ЭКОНОМИЧЕСКИЙ И СОЦИАЛЬНЫЙ СОВЕТ ООН
              UNITED NATIONS ECONOMIC AND SOCIAL COUNCIL

A065151073524 ЭКОНОМИЧЕСКАЯ КОМИССИЯ ООН ДЛЯ ЕВРОПЫ
              UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

A065151073525 ЭКОНОМИЧЕСКАЯ И СОЦИАЛЬНАЯ КОМИССИЯ ООН ДЛЯ АЗИИ И
              ТИХОГО ОКЕАНА
              UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA
              AND THE PACIFIC

A065151073526 ЭКОНОМИЧЕСКАЯ И СОЦИАЛЬНАЯ КОМИССИЯ ООН ДЛЯ АФРИКИ
              UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

A065151073527 ЭКОНОМИЧЕСКАЯ КОМИССИЯ ООН ДЛЯ ЛАТИНСКОЙ АМЕРИКИ
              UNITED NATIONS ECONOMIC COMMISSION FOR LATIN AMERICA

A065151073531 МЕЖДУНАРОДНОЕ АГЕНТСТВО ПО АТОМНОЙ ЭНЕРГИИ
              INTERNATIONAL ATOMIC ENERGY AGENCY

A065151073533   ВСЕМИРНЫЙ ПОЧТОВЫЙ СОЮЗ
UNIVERSAL POSTAL UNION

A065151073537   МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ГРАЖДАНСКОЙ АВИАЦИИ (ИКАО)
INTERNATIONAL CIVIL AVIATION ORGANISATION (ICAO)

A065151073541   МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ТРУДА
INTERNATIONAL LABOUR ORGANISATION

A065151073543   МЕЖДУНАРОДНЫЙ СОЮЗ ЭЛЕКТРОСВЯЗИ
INTERNATIONAL TELECOMMUNICATION UNION

A065151073545   МЕЖПРАВИТЕЛЬСТВЕННАЯ МОРСКАЯ КОНСУЛЬТАТИВНАЯ ОРГА-
НИЗАЦИЯ (ИМКО)
INTERGOVERNMENTAL MARITIME CONSULTATIVE ORGANISATION
(IMCO)

A065151073547   ПРОДОВОЛЬСТВЕННАЯ И СЕЛЬСКОХОЗЯЙСТВЕННАЯ ОРГАНИЗАЦИЯ
ООН (ФАО)
UNITED NATIONS FOOD AND AGRICULTURAL ORGANISATION (FAO)

A0651510787   МЕЖДУНАРОДНЫЙ КООПЕРАТИВНЫЙ АЛЬЯНС
INTERNATIONAL COOPERATIVE ALLIANCE

A0651515   МЕЖДУНАРОДНАЯ ТОРГОВЛЯ
WORLD TRADE

A0651511501   ОБЩИЕ ВОПРОСЫ
GENERAL PROBLEMS

A0651511515   ЯРМАРКИ
FAIRS

A0651511555   КОНЪЮНКТУРА МЕЖДУНАРОДНЫХ ТОВАРНЫХ РЫНКОВ
CONJUNCTURE OF INTERNATIONAL COMMODITY MARKETS

A06515121   МЕЖДУНАРОДНЫЕ НАУЧНО-ТЕХНИЧЕСКИЕ СВЯЗИ
INTERNATIONAL SCIENTIFIC AND TECHNOLOGICAL RELATIONS

A0651512135   ВЫСТАВКИ
EXHIBITIONS

A0651512155   ТОРГОВЛЯ ПАТЕНТАМИ И ЛИЦЕНЗИЯМИ
TRADE IN PATENTS AND LICENSES

A06515151   МЕЖДУНАРОДНЫЕ МЕЖПРОИЗВОДСТВЕННЫЕ СВЯЗИ И КООПЕ-
РИРОВАНИЕ ПРОИЗВОДСТВА
INTERNATIONAL INTERPRODUCTION RELATIONS AND COOPERATION
OF PRODUCTION

A06515167   РАСЧЕТНЫЕ, КРЕДИТНЫЕ И ВАЛЮТНЫЕ ОТНОШЕНИЯ
ACCOUNTING, CREDIT AND MONETARY RELATIONS

A06515187   КООПЕРАТИВНЫЕ СВЯЗИ
COOPERATIVE RELATIONS

A06515190   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ СОЦИАЛИСТИЧЕСКИМИ И
КАПИТАЛИСТИЧЕСКИМИ СТРАНАМИ.
ECONOMIC RELATIONS BETWEEN SOCIALIST AND CAPITALIST
COUNTRIES

A0651519015   СОПОСТАВЛЕНИЕ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ
COMPARISON OF ECONOMIC DEVELOPMENT

A0651519016   ОТНОШЕНИЯ МЕЖДУ СЭВ И ЕЭС И ДРУГИМИ ИНТЕГРАЦИОННЫМИ
ГРУППИРОВКАМИ
RELATIONS BETWEEN COMECON AND EEC AND OTHER INTEGRATION
GROUPINGS

A0651519017   ТОРГОВЛЯ МЕЖДУ СОЦИАЛИСТИЧЕСКИМИ И КАПИТАЛИСТИЧЕС-
КИМИ СТРАНАМИ
TRADE BETWEEN SOCIALIST AND CAPITALIST COUNTRIES

A0651519021   НАУЧНО-ТЕХНИЧЕСКИЕ СВЯЗИ МЕЖДУ СОЦИАЛИСТИЧЕСКИМИ И
КАПИТАЛИСТИЧЕСКИМИ СТРАНАМИ
SCIENTIFIC AND TECHNOLOGICAL RELATIONS BETWEEN SOCIALIST
AND CAPITALIST COUNTRIES

A0651519051   МЕЖПРОИЗВОДСТВЕННЫЕ СВЯЗИ И КООПЕРИРОВАНИЕ ПРОИЗ-
ВОДСТВА СОЦИАЛИСТИЧЕСКИХ И КАПИТАЛИСТИЧЕСКИХ СТРАН
INTERPRODUCTION RELATIONS AND COOPERATION OF PRODUCTION
OF SOCIALIST AND CAPITALIST COUNTRIES

A0651519061   РАСЧЕТНЫЕ,КРЕДИТНЫЕ И ВАЛЮТНЫЕ ОТНОШЕНИЯ СОЦИАЛИС-
ТИЧЕСКИХ И КАПИТАЛИСТИЧЕСКИХ СТРАН
ACCOUNTING, CREDIT AND MONETARY RELATIONS OF SOCIALIST AND
CAPITALIST COUNTRIES

A0651519090   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ ОТДЕЛЬНЫМИ СОЦИ-
АЛИСТИЧЕСКИМИ И КАПИТАЛИСТИЧЕСКИМИ СТРАНАМИ
ECONOMIC RELATIONS BETWEEN INDIVIDUAL SOCIALIST AND
CAPITALIST COUNTRIES

A06515195   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ СОЦИАЛИСТИЧЕСКИМИ И
РАЗВИВАЮЩИМИСЯ СТРАНАМИ
ECONOMIC RELATIONS BETWEEN SOCIALIST AND DEVELOPING
COUNTRIES

A0655   МИРОВАЯ СОЦИАЛИСТИЧЕСКАЯ СИСТЕМА ХОЗЯЙСТВА. ЭКОНОМИКА
СОЦИАЛИСТИЧЕСКИХ СТРАН
WORLD SOCIALIST ECONOMIC SYSTEM. ECONOMY OF SOCIALIST
COUNTRIES

A065501   ОБЩИЕ ВОПРОСЫ ·
GENERAL PROBLEMS

A065515   МИРОВАЯ СОЦИАЛИСТИЧЕСКАЯ СИСТЕМА ХОЗЯЙСТВА
WORLD SOCIALIST ECONOMIC SYSTEM

A06551503   МЕЖДУНАРОДНОЕ СОЦИАЛИСТИЧЕСКОЕ РАЗДЕЛЕНИЕ ТРУДА
INTERNATIONAL SOCIALIST DIVISION OF LABOUR

A06551505   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ СОЦИАЛИСТИЧЕСКИМИ
СТРАНАМИ
ECONOMIC RELATIONS WITHIN SOCIALIST ECONOMIC SYSTEM

A06551507   СОЦИАЛИСТИЧЕСКАЯ ЭКОНОМИЧЕСКАЯ ИНТЕГРАЦИЯ
SOCIALIST ECONOMIC INTEGRATION

A0655150707   СОВЕТ ЭКОНОМИЧЕСКОЙ ВЗАИМОПОМОЩИ
COUNCIL FOR MUTUAL ECONOMIC ASSISTANCE

A065515070735   КОМПЛЕКСНАЯ ПРОГРАММА ЭКОНОМИЧЕСКОЙ ИНТЕГРАЦИИ
COMPREHENSIVE PROGRAMME OF ECONOMIC INTEGRATION -

A0655150725   СПЕЦИАЛИЗАЦИЯ И КООПЕРИРОВАНИЕ
SPECIALISATION AND COOPERATION

A0655150745   СОВМЕСТНЫЕ ПРЕДПРИЯТИЯ
JOINT ENTERPRISES

A0655150765   СОТРУДНИЧЕСТВО В ОБЛАСТИ ПЛАНОВОЙ ДЕЯТЕЛЬНОСТИ
COOPERATION IN THE SPHERE OF PLANNING ACTIVITY

A06551515   МЕЖДУНАРОДНЫЕ ТОРГОВЫЕ ОТНОШЕНИЯ. ВНЕШНЯЯ ТОРГОВЛЯ
INTERNATIONAL TRADE RELATIONS. FOREIGN TRADE

A0655151590   ТОРГОВЛЯ ОТДЕЛЬНЫМИ ВИДАМИ ТОВАРОВ
TRADE IN INDIVIDUAL COMMODITIES

A06551521   НАУЧНО-ТЕХНИЧЕСКИЕ СВЯЗИ
SCIENTIFIC AND TECHNOLOGICAL RELATIONS

A06551567   ВАЛЮТНО-ФИНАНСОВАЯ СИСТЕМА
MONETARY SYSTEM

A06551587   ДВИЖЕНИЕ РАБОЧЕЙ СИЛЫ
LABOUR MOBILITY

A06551590   СОТРУДНИЧЕСТВО В ОТДЕЛЬНЫХ ОТРАСЛЯХ ЭКОНОМИКИ
COOPERATION IN DIFFERENT INDUSTRY

A0655159003   ПРОМЫШЛЕННОСТЬ
INDUSTRY

A0655159005   СТРОИТЕЛЬСТВО
CONSTRUCTION

A0655159007   СЕЛЬСКОЕ,ЛЕСНОЕ И РЫБНОЕ ХОЗЯЙСТВО
AGRICULTURE, FORESTRY AND FISHERY

A0655159009   ТРАНСПОРТ И СВЯЗЬ
TRANSPORT AND COMMUNICATION

A0655159090   ДРУГИЕ ОТРАСЛИ ЭКОНОМИКИ
OTHER INDUSTRIES

A0657170535   ЭКОНОМИЧЕСКИЕ ПРОТИВОРЕЧИЯ
ECONOMIC CONTRADICTIONS .

A0657170545   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ КАПИТАЛИСТИЧЕСКИМИ И РАЗВИВАЮЩИМИСЯ СТРАНАМИ
ECONOMIC RELATIONS BETWEEN CAPITALIST AND DEVELOPING COUNTRIES

A0657170555   ЭКОНОМИЧЕСКАЯ ЭКСПАНСИЯ. ВЫВОЗ КАПИТАЛА. ИНОСТРАННЫЕ КАПИТАЛОВЛОЖЕНИЯ
ECONOMIC EXPANSION. EXPORT OF CAPITAL. FOREIGN CAPITAL INVESTMENTS

A065717055535   ЭКСПАНСИЯ В РАЗВИВАЮЩИЕСЯ СТРАНЫ
EXPANSION INTO DEVELOPING COUNTRIES

A06571706   МЕЖДУНАРОДНЫЕ МОНОПОЛИИ
INTERNATIONAL MONOPOLIES

A06571707   КАПИТАЛИСТИЧЕСКАЯ ЭКОНОМИЧЕСКАЯ ИНТЕГРАЦИЯ
CAPITALIST ECONOMIC INTEGRATION

A0657170715   ОБЩИЕ ПРОБЛЕМЫ
GENERAL PROBLEMS

A0657170735   ИНТЕГРАЦИЯ СТРАН ЗАПАДНОЙ ЕВРОПЫ
INTEGRATION OF WEST EUROPEAN COUNTRIES

A065717073515   ЕВРОПЕЙСКОЕ ОБЪЕДИНЕНИЕ УГЛЯ И СТАЛИ (ЕОУС)
EUROPEAN COAL AND STEEL COMMUNITY (ECSC)

A065717073525   ЕВРОПЕЙСКОЕ СООБЩЕСТВО ПО АТОМНОЙ ЭНЕРГИИ (ЕВРАТОМ)
EUROPEAN ATOMIC ENERGY COMMUNITY (EAEC)

A065717073535   "БЕНИЛЮКС"
BENELUX

A065717073545   ЕВРОПЕЙСКАЯ АССОЦИАЦИЯ СВОБОДНОЙ ТОРГОВЛИ (ЕАСТ)
EUROPEAN FREE TRADE ASSOCIATION (EFTA)

A065717073555   ОРГАНИЗАЦИЯ ЭКОНОМИЧЕСКОГО СОТРУДНИЧЕСТВА И РАЗВИТИЯ
ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
(OECD)

A0657170745   ЕВРОПЕЙСКОЕ ЭКОНОМИЧЕСКОЕ СООБЩЕСТВО ("ОБЩИЙ РЫНОК")
EUROPEAN ECONOMIC COMMUNITY (THE COMMON MARKET)

A065717074515   ОБЩИЕ ПРОБЛЕМЫ
GENERAL PROBLEMS

A065717074517   ДЕЯТЕЛЬНОСТЬ МОНОПОЛИЙ. РЕГУЛИРОВАНИЕ КОНКУРЕНЦИИ
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ПРОГРАММИРОВАНИЕ В ЕЭС
STATE-MONOPOLY REGULATION. PROGRAMMING IN THE EEC

A065717074525   НАРОДНОХОЗЯЙСТВЕННЫЕ ПРОБЛЕМЫ ЕЭС
THE EEC ECONOMY PROBLEMS

A065717074531   ПРОБЛЕМЫ СОЗДАНИЯ ЭКОНОМИЧЕСКОГО И ВАЛЮТНОГО СОЮЗА
PROBLEMS OF THE CREATION OF AN ECONOMIC AND MONETARY
UNION

A065717074539   ВЛИЯНИЕ НА ЭКОНОМИКУ СТРАН-УЧАСТНИЦ
INFLUENCE ON THE ECONOMY OF ITS MEMBER COUNTRIES

A065717074543   ПРОМЫШЛЕННОСТЬ
INDUSTRY

A065717074545   СЕЛЬСКОЕ ХОЗЯЙСТВО
AGRICULTURE

A065717074549   ТРАНСПОРТ И СВЯЗЬ
TRANSPORT AND COMMUNICATION

A065717074555   ТОРГОВЛЯ
TRADE

A065717074557   ФИНАНСЫ
FINANCES

A065717074567 ТРУД. ДВИЖЕНИЕ РАБОЧЕЙ СИЛЫ
LABOUR. LABOUR MOBILITY

A065717074569 РЕГИОНАЛЬНОЕ РАЗВИТИЕ
REGIONAL DEVELOPMENT

A065717074571 ВНЕШНЕЭКОНОМИЧЕСКАЯ ПОЛИТИКА
FOREIGN ECONOMIC POLICY

A065717074576 ПРОБЛЕМЫ ЕВРАФРИКИ
PROBLEMS OF EURAFRICA

A06571715 МЕЖДУНАРОДНАЯ ТОРГОВЛЯ. ВНЕШНЯЯ ТОРГОВЛЯ
INTERNATIONAL TRADE. FOREIGN TRADE

A0657171515 ТОРГОВЛЯ КАПИТАЛИСТИЧЕСКИХ И РАЗВИВАЮЩИХСЯ СТРАН
TRADE OF CAPITALIST AND DEVELOPING COUNTRIES

A06571721 НАУЧНО-ТЕХНИЧЕСКИЕ СВЯЗИ
SCIENTIFIC AND TECHNOLOGICAL RELATIONS

A0657172115 ТЕХНИЧЕСКАЯ "ПОМОЩЬ" РАЗВИВАЮЩИМСЯ СТРАНАМ
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A06571767 МЕЖДУНАРОДНАЯ КАПИТАЛИСТИЧЕСКАЯ ВАЛЮТНО-ФИНАНСОВАЯ СИСТЕМА
INTERNATIONAL CAPITALIST MONETARY SYSTEM

A0657176701 ОБЩИЕ ВОПРОСЫ
GENERAL PROBLEMS

A0657176757 ВАЛЮТНЫЕ ОТНОШЕНИЯ
MONETARY RELATIONS

A0657176765 ДВИЖЕНИЕ КАПИТАЛОВ. МЕЖДУНАРОДНЫЕ КРЕДИТНЫЕ ОТНОШЕНИЯ
CAPITALS MOVEMENT. INTERNATIONAL CREDIT RELATIONS

A065717676545 ПРОБЛЕМЫ ЕВРОДОЛЛАРОВ И ЕВРОЭМИССИИ
PROBLEMS OF EURODOLLARS AND EUROEMISSION

A0657176767   МЕЖДУНАРОДНЫЕ ФИНАНСОВЫЕ ОРГАНИЗАЦИИ
INTERNATIONAL FINANCIAL ORGANISATIONS

A0657176780   МЕЖДУНАРОДНЫЕ БАНКОВСКИЕ ГРУППИРОВКИ
INTERNATIONAL BANKING GROUPS

A06571787   МЕЖДУНАРОДНОЕ ДВИЖЕНИЕ РАБОЧЕЙ СИЛЫ
INTERNATIONAL LABOUR MOBILITY

A06571790   ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ В ОТДЕЛЬНЫХ ОТРАСЛЯХ ЭКОНОМИКИ
ECONOMIC RELATIONS IN DIFFERENT INDUSTRIES

A0657179003   ПРОМЫШЛЕННОСТЬ
INDUSTRY

A0657179005   СТРОИТЕЛЬСТВО
CONSTRUCTION

A0657179007   СЕЛЬСКОЕ, ЛЕСНОЕ И РЫБНОЕ ХОЗЯЙСТВО
AGRICULTURE, FORESTRY AND FISHERY

A0657179009   ТРАНСПОРТ И СВЯЗЬ
TRANSPORT AND COMMUNICATION

A0657179090   ДРУГИЕ ОТРАСЛИ ЭКОНОМИКИ
OTHER INDUSTRIES

| A0659 | ЭКОНОМИКА РАЗВИВАЮЩИХСЯ СТРАН |
| | ECONOMY OF DEVELOPING COUNTRIES |

| A065901 | ОБЩИЕ ВОПРОСЫ |
| | GENERAL PROBLEMS |

| A065905 | ЭКОНОМИЧЕСКИЕ ОТНОШЕНИЯ МЕЖДУ РАЗВИВАЮЩИМИСЯ СТРАНАМИ |
| | ECONOMIC RELATIONS BETWEEN DEVELOPING COUNTRIES |

| A06590507 | ЭКОНОМИЧЕСКАЯ ИНТЕГРАЦИЯ |
| | ECONOMIC INTEGRATION |

| A0659050755 | АЗИАТСКИЕ СТРАНЫ |
| | ASIAN COUNTRIES |

| A0659050765 | АФРИКАНСКИЕ СТРАНЫ |
| | AFRICAN COUNTRIES |

| A0659050775 | СТРАНЫ ЛАТИНСКОЙ АМЕРИКИ |
| | LATIN-AMERICAN COUNTRIES |

| A065905077525 | ЛАТИНОАМЕРИКАНСКАЯ АССОЦИАЦИЯ СВОБОДНОЙ ТОРГОВЛИ |
| | LATIN AMERICAN FREE TRADE ASSOCIATION |

| A065905077535 | ЦЕНТРАЛЬНОАМЕРИКАНСКИЙ "ОБЩИЙ РЫНОК" |
| | THE CENTRAL AMERICAN COMMON MARKET |

| A06590515 | ВНЕШНЯЯ ТОРГОВЛЯ |
| | FOREIGN TRADE |

A.Aliev, can.of history

A.Isaev

An Attempt of Sociological Investigation into
the Efficiency of Abstract Journals Published by the
INION of the USSR Academy of Sciences

At present our country development is characterised by the
revolutionary changes in all spheres of life of the Soviet society
and the role of R & D in social sciences increases manifold. The
system of information supply of social research permits to raise
the practical applicability of works by social scientists in the
context of the swelling information flow. The All-Union centre of
the Unified System of scientific information in social sciences -
the INION of the USSR Academy of Sciences contributes greatly to
the process.

The INION is rather a complex research body which accomplishe
the preparation of operative analytical, abstract and bibliogra-
phical information for the Party, governmental and social organi-
zations, research centres and academic establishments, mass media
and for a wide rage of social scientists. The user gets the pre-
pared by the Institute information in the form of scientific-in-
formation publications covering all the major branches of humani-
tarian sciences, many pages of which are devoted to the most signi-
ficant problems of social and political studies.

The system of scientific-information publications of the
INION is centered around the two abstract journals(AJ): "Social
Sciences in the USSR" (AJ USSR) and "Social Sciences Abroad" (AJ
Abroad). The "AJ USSR" includes seven independent subject series:

"Scientific Communism", "Economics", "Philosophical Sciences", "State and Law", "History", "Linguistics", "Literary Criticism". The "AJ Abroad" includes nine series: "Scientific Communism", "Economics", "Philosophy and Sociology", "State and Law", "History", "Linguistics","Literary Criticism", "Science of Sciences", "Oriental and African Studies".

The first issues of Abstract journals appeared in 1973. The journals underwent a remarkable qualitative evolution and today are justly placed among other all-Union carriers of the secondary information in social sciences. The fact that in 1987 the sum total subscription to all the 16 series amounted to 15 thousand copies testifies to a certain popularity of abstract journals. The list of permanent foreign subscribers to journals consists of 28 states from all over the world. In 1987 the number of abstract journals circulated abroad on subscription reached 3000 copies.

The patterns of stable contacts between the Institute (the Editor) and subscribers to AJ (Information Users) formed in the early 1980s should be thoroughly studied and analysed from the viewpoint of the specifics of their functioning. Today we are facing the problem of constructing the reverse contact system, which would provide a flexible, efficient and representative acquisition of empirical data on the information needs of experts in social sciences. Further clarification is needed to discover the extent to which AJs meet the demands of the users, to analyse the aims and mode of application of data received by them, to reveal possible ways of improvement of the quality and efficiency of information, etc.

Naturally enough, the limited, nonperiodical and fragment data on the Institute's publications, acquired at special readers' conferences, from single readers responses, and during the meetings with individual readers couldn't provide comprehensive solutions to all these problems. It could be achieved only via complex stage by stage sociological research, on the efficiency and quality of the scientific and information publications of the INION. In the early 1980s the INION Laboratory of Information Requirements in Social Sciences was entrusted with the task of elaboration and realization of such research programs. It is quite obvious that the information needs of social scientists differ greatly from that of scientists in other fields of scientific knowledge. This can be explained by the specifics and different rates of development of social and non-social sciences and by radical destinctions between social, natural and scientific and technological information. Even in the framework of social sciences the information needs of experts differ greatly, depending on the intensity of development of the concrete sphere of scientific discipline. Consequently the individual information needs of scholars and experts in social sciences are rather flexible, they change at every particular stage of scientific work, they depend on the extent of the user's information knowledge, his specific psychological features and many other factors influencing the formation of information media of a separate consumer.

Bearing in mind, that INION publications are meant mainly for individual user (abstract jounals in our case) at the first stage of research the Institute focuses on the study of individual information needs of the reader of scientific abstract production

of INION, regarded as a concrete demand of subscribers and readers for specific information necessary for solution of special tasks in the field of social sciences. Generally speaking the INION publications are meant exactly to meet such demands and to clarify the tasks of information supply, which consequents in a rather high level of relevance and pertinence of information.

As a rule the investigation into the information needs is viewed by the researchers as the first stage of establishment of the information system which is to be constructed with due regard for the wishes of users and basic tendencies of scientific development. The specifics of our approach aimed at improvement of information supply of the latest Soviet and foreign scientific literature in social sciences, is an attempt to identify the information needs of readers of the INION periodicals in the framework of an existing and already functioning information system. The necessity of practical estimation of the information needs of the INION AJ readers was provoked mainly by the fact that the information system in social sciences suggested by the INION and the level of its development needs further improvement and optimization. It is quite evident, that the solution of this task becomes possible only through establishing the inverse ties (relations) with the users. Thus it seems today that the most efficient way of acquisition of the highly authentic empirical data is the application of sociological methods. The user of information whose personal attitude towards the problem of quality and efficiency of the INION AJs coincides with that of the INION information service,contributes greatly to the selection of the research method - the questionnaires distribution.

It was considered expedient to carry out the first research of the sort among the recipients of "AJ USSR" and "AJ Abroad" circulated by subscription in the USSR through the Central Subcription Agencies "Soyuzpechat".

The problem of the research was to determine the ways of improvement of information supply in social sciences.

The aim of research was to study the information needs of the subscribers to all the series of "AJ USSR" and "AJ Abroad".

There were set up the following tasks of research:
— to define to what extent the abstract journals meet the requirements of the reader;
— to analyse the nature and sphere of their application;
— to investigate into the needs of recipients in new forms of secondary information;
— to identify the circle of information users (the vocational, demographic and other aspects).

The subscribers to "AJ USSR" and "AJ Abroad" appeard as an object of the research.

Method and Technique

The research was carried out in a form of selected questionnaires based on data acquired by "Sojuzpechat" during the subscription to AJ. Questionnaires were distributed by post.

The selection totality included the following indicators — 1142 subscribers to abstract journals and 500 readers of abstract journals in the INION Library, Libraries of the Academy of Sciences and other institutes of the Social Science Section of the USSR Academy of Sciences in Moscow and Leningrad.

Out of 1642 questionnaires distributed separately - on AJ "Social Sciences in the USSR" and AJ"Social Sciences Abroad" only 513 have been returned. Users of information from 72 Soviet settlements have answered the questions. 12 questionnaires have been nullified, thus the volume of selection that underwent machine proccessing included 501 respondents.

According to the findings of the empirical analysis of data, the bulk of users of the INION AJ (approximately 90%) consists of scientific workers and teachers of higher educational establishments, post-graduates, information workers. The majority of respondents use abstract journals for more than five years. It should be mentioned that over two thirds of users are candidates and doctors of sciences. Thus we concluded that the abstract journal readers were highly skilled specialists, well acquainted with the INION periodicals; their answers to questionnaires and their proposals were regarded as a rather noteworthy and competent public opinion testifying to the quality of abstract journals and pointing out ways of improvement and optimization of the journals.

The answers of respondents permit to conclude that materials included into AJ are mainly used for the purpose of scientific research (over 70% of answers), in writing of monographs and essays (over 40%), for higher educational establishment teachers (up to 40%), for reference - information work and for advanced studies (up to 35%). The nature and sphere of information application are greatly impelled by the skill, vocational, and educational level of majority of information users.

The overwhelming majority of respondents are satisfied with the information on the latest Soviet and foreign scientific

literature (over 95%, including 28% of respondents of questionnairs on the AJ "Social Sciences in the USSR" and 44% of those who answered questionnaires on the AJ "Social Sciences Abroad" who are fully satisfied). It becomes clear that the user is more critical to AJs, publishing data on the Soviet scientific literature. In this case he can use the originals and decide upon the quality of selection and abstracting. The majority of users of the AJ "Social Sciences Abroad" are satisfied with the quality of abstracting of foreign originals (99%, including 58% of respondents who are fully satistied).

The respondents proved the importance of including into abstract journals an element of scientific analytical information (abstract reviews)-55% of respondents fully agree with the publications of the kind and up to 50% of reaaers believe it necessary to extend such reviews.

The AJ readers display rather a positive attitude towards the scientific and reference mechanism of AJ (subject and author indexes published in every issue of AJ). Only six readers of the abstract journal "Social Sciences in the USSR" and one reader of the abstract journal "Social Sciences Abroad" out of the total number of respondents are dissatisfied with the published indexes.

256 users submitted 288 proposals on either the promotion and extension of study of scientific problems in AJ, or on the necessity to introduce new and supplementary headings (rubrics) on the state of affairs in the given spheres, or on the improvement of the AJ structure, language, style of interpretation and also the poligraphic form of the journals.

As a whole data acquired in the course of research proved that the absolute majority of respondents are satisfied with the INION abstract information on the latest Soviet and foreign scientific literature. The present level of analytic and synthetic processing of the originals, of the content arrangement of abstract journals and of their poligraphic form permit to conclude that there exists a solid basis for further improvement of input and popularization of the most valid publications of the Soviet and foreign social scientists. The findings of the research illustrate the interest the scientific community displays towards the abstract publications of the INION and its readiness to cooperate with the Institute in the work aimed at the improvement of quality and scientific and information value of the Institute's publications.

The study of the information needs of the INION AJ readers and an analysis of its findings showed that methods and technique applied proved to be relevant for similar studies of the bibliographical index users. In future the findings of the research of demands of the readers of the INION periodicals may be employed in elaboration of recommendations on further improvement of the system of scientific and information publications of the INION.

The tables given in the Appendix contain some data taken from the questionnaires filled by the INION abstract journal readers.

Table 1

The Level of Satisfaction of the Users of
Information Included in Abstract Journals

Answer to the question	"AJ USSR" The number of answers	%	"AJ Abroad" The number of answers	%
Fully satisfied	85	28,3	89	44,3
Partially satisfied	203	67,6	111	55,2
Dissatisfied	12	4,1	1	0,5
Total:	300	100,0	201	100,0

Table 2

The Level of Satisfaction of Readers by the Series of the
Abstract Journal "Social Sciences in the USSR"

The AJ USSR Series	Number of readers	Fully satisfied		Partially satisf.		Dissatisf.	
		number of answers	%	number of answers	%	number of answers	%
Problems of Scientific Communism	99	33	33,3	62	62,6	4	4,1
Economics	124	31	25,0	87	70,2	6	4,8
Philosopical Sciences	128	39	30,5	82	64,1	7	5,4
State and Law	70	28	40,0	38	54,3	4	5,7
History	78	23	29,5	51	65,4	4	5,1
Literary Criticism	39	12	31,6	23	60,5	3	7,5
Linguistics	65	23	35,4	37	56,9	5	7,7

Table 3

The Level of Satisfaction of Readers by Separate
Series of AJ "Social Sciences Abroad"

The AJ Series	Number of answers	Fully satisfied		Partially satisf.		Dissatisfied	
		number of answers	%	number of answers	%	number of answers	%
Problems of Scientific Communism	52	30	57,7	22	42,3	-	-
Economics	6I	34	55,7	27	44,3	-	-
Philosophy and Sociology	75	38	50,7	37	49,3	-	-
State and Law	28	I5	53,6	I3	46,4	-	-
History	56	24	42,8	3I	55,4	I	I,8
Linguistics	40	I9	47,5	2I	52,5	-	-
Literary Criticism	28	I3	46,4	I5	53,6	-	-
Science of Sciences	55	23	4I,8	32	58,2	-	-
Oriental and African Studies	26	4	I5,4	22	84,6	-	-

Table 4

The Application of the INICN Publications and the Profession (Occupation) of Respondents, Using the AJ "Social Sciences Abroad" (Number of Answers)

	For scientific and research work	For acquaintance with the latest literature on the subject and allied trades	For writing a monograph on essays	For preparation to lectures academic studies, seminars	For advanced studies	For writing a dissertation	For propaganda work	For reference and inform. work
Scientific worker	77	54	44	II	24	2I	9	36
Teacher	62	39	4I	46	23	27	20	I5
Information personnel, Librarian	5	4	2	2	4	2	2	IO
Lecturer-Propagandist	6	3	4	5	5	4	8	3
Post Graduate	7	6	2	2	4	I3	I	I
Engineer and technician	4	3	I	2	-	3	2	I
Employer	I	-	-	I	I	2	2	4
Student	I	2	-	I	-	-	-	I

Table 5

The Application of the INION Publications
and the Profession (Occupation) of Respondents
Using the AJ "Social Sciences in the USSR" (Number of Answers)

	For scientific and research work	For acquaintance with the latest literature on the subject and allied trades	For writing a monograph on essays	For preparation to lectures, academic studies, seminars	For advanced studies	For writing a dissertation	For propaganda work	For reference and inform. work
Scientific worker	I07	55	6I	I6	37	24	–	–
Teacher	78	6I	47	75	5I	27	26	2
Information personnel								
Librarian	2I	I8	8	I7	I2	I0	9	4
Lecturer-Propagadist	9	I6	4	I6	8	5	I5	–
Post Graduate	4	6	5	2	2	I2	–	–
Engineer and technician	4	5	3	–	I	2	3	–
Employer	2	4	2	2	I	I	3	–
Student	3	4	I	3	I	I	I	–

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LINGUISTIC TOOLS FOR A MULTILINGUAL BIBLIOGRAPHIC DATA BASE

The INION is a leading body of the International Social Science Information System of Socialist Countries. At the same time it forms part of a State Automated System of Scientific and Technical Information. All bibliographic subsystems of the automated information system (AIS) intended for handling branch, regional and integral problems of social sciences put into effect at the end of 1985.

INION's input flow is an exceedingly complex heterogeneous phenomenon. Its information stock includes different types of scientific documents - monographs, articles published in journals and collections, textbooks, dissertations, etc. coming from several countries in different languages. The structure of this flow has the following statistics. Information concerning 250.000 documents includs annually:

in Russian	75.000
in non-Russian Soviet languages	15.000
in the languages of European socialist countries	60.000
in the languages of other countries	100.000
of these, in oriental languages	10.000

A number of problems arise when developing a system of normative thesauri (NT) which are incorporated in the complex of the linguistic tools of the AIS of INION and MISON. The problems are related both to the tasks of processing a multilingual document flow and to the specific character of social sciences, primarily to the presence of specific pecularities of the terminological systems applied in publications.

VOCABULARY OF THESAURUS AND TERMINOLOGY
(Preliminary remarks)

Just as any language, the information retrieval language (IRL) has both: the expression plane and the semantic plane. The latter is the totality of notions relevant to the conceptual tasks of the functioning of an information system. In information experience in the development of an IRL, as a rule, use is made of elements of the expression plane of a natural language. However, the use of lexical (mostly terminological) units of a natural language for the organization of the expression plane of the descriptors e requires the solution of a set of linguistic problems connected with both aforementioned planes. The elimination of the descriptors' synonymy and polysemy is one of the main problems in the construction of an NT since only then can a one-to-one correspondence

between the descriptor and the signified notion be ensured.

The same is required of terminology as the constituent part of the scientific language.*) However, a number of terms always exhibit both synonymy and polysemy.

The obstacle to the establishment of an identical correspondence between the aforesaid planes of the terms is their use by great numbers of speakers. In these conditions recommendations for terminological perfection can hardly be adopted by all users of the scientific language even within one branch. Therefore recommendations for terminological normalization can hardly be consistently observed.

Furthermore, social sciences in a number of cases have for their research object not only and not so much certain objects to which the terminology of a "nomenclature" character (as in technology) would correspond but rather specific constructs, whose development is an intension of the cognition process. This circumstance predetermines the limits of the possible standardization of terminology in social sciences.

When social sciences' thesauri are developed the specific problem is the absence of a single terminological system even in the framework of one and the same area. Science uses different methods of study, a variety of research traditions, the study may be based on different hypotheses, the same subject may be investigated in different aspects. All this leads to the emergence of different scientific schools and trends which create and use their own terminological systems. Such systems usually overlap, though the degree of coincidence may vary. Besides, in the framework of a branchwise terminology there may coexist quite autonomous terminological systems. Suffice it to mention the phylosophical terminological system of M. Heidegger or the linguistic terminological system of L. Hjesmslev.

That means the existence of several languages of science within one branch. That is why complexities arise in the attempt to integrate them into a single terminological system by mere compilation or to evolve a new terminological system as a meta-language to describe

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*) Terminology is interpreted here as the totality of terms used in all terminological systems of the given natural language.

all the available terminological systems. The problem of a conceptual integration of terminological systems in a IRL list of terms is one of the main tasks when a thesaurus is developed, i.e. if the system is oriented to input of literature which is created by scientists and scholars of different schools and orientations.

A considerable part of terminology in each terminological system represents interpretations of real objects and phenomena and the aspects of considering the social process which, in the frame of another school or orientation may serve as the object of a study, i.e. they are concurrently a designation of an aspect of study in the frame of one school or orientation and the object of study and criticism in the frame of another school or orientaiton. This duality of terms is a specific feature of social science. It is hardly possible to carry out an integration of terminological systems in a thesaurus at a high standard if these distinctions are levelled out and if they are reduced to a single terminological system (We have in mind the standard of functioning of this thesaurus as a means of retrieval in the data base).

The aforesaid shows that the integration of terminological systems in an NT should not be replaced by their reduction to one terminological system. Whatever the degree of coincidence with some concrete terminological system, the NT should have a sufficient semantic power to express the basic differences between terminological systems which are relevant in view of the tasks of the information retrieval system.

One can see many other basic qualitative and quantitative differences between branch terminology and the branch IRL which make it impossible to identify them or speak of their isomorphism.

Only the consideration of these differences makes it possible to create a thesaurus capable of adequately reflecting the real content of documents and requests in social science.

Thesaurus and multilingual document flow

It was shown, that a branch NT of a concrete information system cannot be reduced to branch terminology (as the totality of terms of all terminological systems of the branch). In most cases it cannot be identified with the branch thesauri functioning in other systems either since it must correspond not only to the general requirements to an NT in social sciences, but also to concrete specific requirements of the given system.

As said earlier, the integration of terminological systems is an indispensable condition of the establishment of any social science thesaurus since the processing of the scientific literature of different schools and trends for an IRS can hardly be effective in the case of the use of an NT created within the framework of single terminological

system. Therefore the main and most complex part of linguistic work is that related to the semantic plane of descriptors, their conceptual analysis.

It is clear that the effort for the development of an IRL will be much more complicated if the system is intended for the processing of documents published in different languages and in different countries. The thesaurus should include then the descriptors which reflect the realia and concepts comprising the specific content of the foreign literature input. In this case the differences of two terminological systems (of the initial source system and of the terminological systems of the input flow) should be regarded in the context of the overall task of integration of terminological systems after the translation of the terms necessary for IRL. For instance, the terminology of Marxist philosophy in German does not differ basically from the terminology in Russian. So there is no need in integrating the terminological systems, we should only translate the terms which may be missing in the Russian NT but which are necessary for rendering the content of the philosophical literature coming from the GDR.

The integration of terms in the NT should be based on one source terminological system, other terminological systems or their fragments being added to it. In social sciences no single terminological system can be used as a universal meta-language for representing all existing terminological systems without some change being made in the meaning of the terms of this source terminology. Integration requires finding an optimal correlation between the NT's ability to express the range of notions of some concrete terminological system and the necessity of one-to-one representation of the subject content derived from works of scientists of different schools.

A thesaurus built so is integrated even if it is really based upon a single natural language. It possesses a much greater semantic power than any of the terminological systems incorporated in it, it is a meta-language (of a definite extent of specificity) for all this terminological systems. Only this type of a thesaurus makes it possible to describe the content of documents supplied to the data base with a degree of adequacy which is necessary for the settlement of problems of information. (We are not dwelling upon the role of paradigmatic relationships in a thesaurus since this does not relate directly to the topic of this discussing).

Different relations arise between the notions of original terminological system and the rest ones. Let me give some examples having in mind the terminology of the Soviet economic science as the initial one:

1. The notion is missing in the initial terminological system: INDUSTRIAL SOCIETY; GROWTH LIMITS; INVISIBLE TRADE.

2. The notions completely coincide: AUTOMATISATION; ATOMIC POWER; CURRENCY; AGE PATTERN; EXPORT OF CAPITAL.

3. The notions coincide partly but the difference can be ignored: PEASANTS; INDUSTRIALIZATION; IMMIGRANTS; DEPENDENT TERRITORIES.

4. The notions do not coincide and it must be registered which of the possible meanings is included in the thesaurus: FOREIGN AID (used in reference to the recipient country).

5. The notions exhibit so little coincidence that they must be represented in the IRL by different descriptors with different content: PLANNING (used for socialist economy, the term for capitalist economy is ECONOMIC PROGRAMMING).

We are not dwelling on questions related to the removal of polysemy and synonymy.

The question of integrating the terminological systems in an information language is connected not only with the ideological differences in the interpretation of social phenomena, which is manifested in specific terminology, for example, that of Marxist and non-Marxist scientific publications. Social science thesauri exhibit considerable differences not always attributable to the ideological specifics of concrete IRS. It should be emphasized that these differences are neither connected with the specific structural features of different natural languages. In a number of cases these differences have the only source: the NT compilers fail to consider the existence of several terminological systems within one branch. That is a specific property of social science terminology in the frame of one natural language.

This conclusion is based upon a comparison of a number of social science thesauri. The comparison has brought out the following types of differences:

1. The absence of notions of one of the terminological systems although the topical coverage and the degree of specificity of the given NT presuppose their inclusion. For example, the UNESCO Thesaurus includes the descriptor INTERNATIONALISM in the following form:

INTERNATIONALISM
    BT POLITICAL DOCTRINES
    TT IDEOLOGIES
       PHILOSOPHY
       POLITICAL SCIENCE
       THEORIES
    BT INTERNATIONAL RELATIONS
       WORLD GOVERNMENT

This descriptor forms part of several subject areas, including those of IDEOLOGIES and THEORIES. In the POLITICAL Science Thesaurus published in the USA the descriptor IDEOLOGIES includes 42 descriptors whereas THEORIES includes 17 descriptors. However, the descriptor INTERNATIONALISM is missed there.

Similar examples can be easily multiplied. The absence of valuable descriptors in the thesaurus (valuable if only due to the large flow of documents on the subject) can

hardly be attributed to their extra specificity for the thesaurus or to ideological differences. The reason is the absence of integration of terminological systems.

2. <u>Differences in the semantic plane</u>. These cases are considered in research papers on terminology and thesauri as polysemy due to the existence of several scientific schools and trends. Such differences can exist with descriptors of any level of specificity.
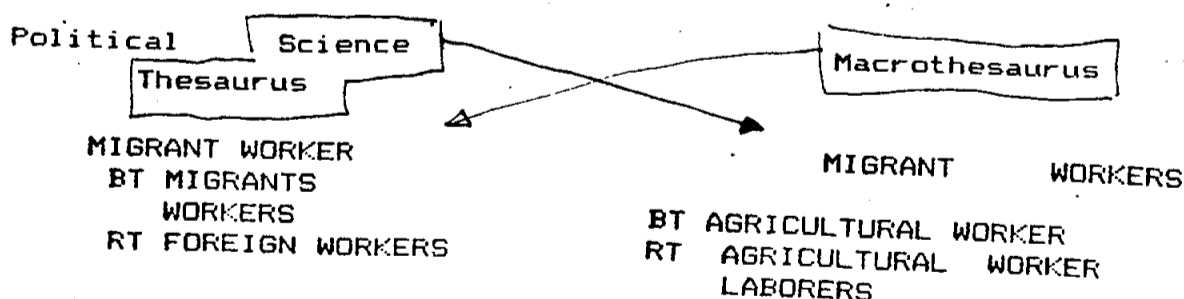
Here are the dictionary entries of the descriptors which represent the notion of SOCIAL CLASS in three thesauri:

(1) UNESCO Thesaurus
 SOCIAL CLASS
UF CLASS
NT MIDDLE CLASS
 UPPER CLASS
 WORKING CLASS
BT SOCIAL STRATIFICATION
TT <u>SOCIAL STRUCTURE</u>
 <u>CLASS CONFLICT</u>
 CLASS CONSCIOUSNESS
 <u>CLASS DIFFERENTIATION</u>

(2) Macrothesaurus
 SOCIAL CLASSES
NT BOURGEOISIE
 MIDDLE CLASS
 RULLING CLASS
 UPPER CLASS
 WORKING CLASS
RT CLASS CONSCIOUSNESS
 <u>CLASS STRUGGLE</u>
 SOCIAL STRATIFICATION

A comparison of these dictionary entries (the differences are underlined) shows the degree of difference in interpreting the content of the descriptor SOCIAL CLASS. The (3) POLITICAL SCIENCE Thesaurus doesn't include this discriptor at all , but some of the descriptors correlated in the cited examples with SOCIAL CLASS are given under the descriptor CLASS STRATIFICATION DIVISION:

CLASS STRATIFICATION DIVISION
BT SOCIAL STRATIFICATION DIVISION
 ARISTOCRATIC CLASS
 CAPITALIST CLASS
 ENTREPRENEUR CLASS
 LANDOWNING CLASS
 LOWER CLASS
 LUMPEN PROLETARIAT
 MIDDLE CLASS
 MOBILITY
 PEASANT CLASS
 RULING CLASS
 UPPER CLASS
 WORKING CLASS

The differences in the content of the descriptors prove to be so considerable that they should not be regarded as polysemy, but rather as cases of homonymy. This can be well illustrated by the descriptors MIGRANT WORKERS and MIGRANT WORKER in the POLITICAL SCIENCE Thesaurus and in the MACROTHESAURUS respectively.

Political Science Thesaurus

Macrothesaurus

MIGRANT WORKER
BT MIGRANTS
 WORKERS
RT FOREIGN WORKERS

MIGRANT WORKERS

BT AGRICULTURAL WORKER
RT AGRICULTURAL WORKER
 LABORERS

```
        LABOR MIGRATION                   MIGRANT FARMING
        SEASONAL WORKERS                  MIGRANT POPULATION
                                          MIGRANT PATTERN
                                          MIGRANT POLICY
                                          MIGRANT PROCESS
```

References to a broader notion (BT) show that in the Political Science Thesaurus MIGRANT WORKER is considered to be a type of an agricultural worker whereas in the Macrothesaurus it is presumed to refer to a variety of workers, on the one hand, and that of migrants, on the other.

3. **Differences in the expression plane.** These are usually qualified as synonymy. The descriptors BUSINESS CYCLE and ECONOMIC CYCLE in the MACROTHESAURUS and the POLITICAL SCIENCE Thesaurus have practically the same content although there are differences in the paradigmatics of these descriptors. This is mainly determined, by the different degrees of development of paradigmatic relations. For example:

```
    Macrothesaurus                  Political Science Thesaurus
    BUSINESS CYCLE                  ECONOMIC CYCLE
      Use to denote an alternate BT ECONOMIC CHARACTERISTICS
      expansion and contraction  NT ECONOMIC DEPRESSION
      in overall economic ac-       ECONOMIC INFLATION
      tivity
    UT ECONOMIC  FLUCTUATION         ECONOMIC  RECOVERY
    NT SEASONAL FLUCTUATION       RT CAPITALIST ECONOMY
       ECONOMIC CONDITIONS            DEPRESSION
       ECONOMIC RELATIONS             ECONOMIC CRISES
       ECONOMIC  RECOVERY             ECONOMIC DEVELOPMENT THEORY
       INFLATION                      ECONOMIC GAIN
       TRENDS                         INFLATION
       UNEMPLOYMENT                   SUPPLY ELASTICITY
```

The same applies to the descriptors LABOR DISPUTES and LABOR CONFLICT.

4. **Quantitative differences.** These are determined by many factors the most important being topical coverage of the branch, the required degree of descriptor specificity, the inclusion of general scientific and interbranch terminology, etc. For example, in Political Science Thesaurus of the blacks in the USA is represented by a large group of descriptors:

```
    BLACK BOURGEOISIE
    BLACK CAPITALISM                BLACK INSURRECTION
    BLACK EMANCIPATION              BLACK LIBERATION MOVEMENT
    BLACK GHETTO                    BLACK MILITANCY
    BLACK HISTORY                   BLACK MUSLIM
    BLACK IDENTITY                  BLACK NATIONALISM
                                    BLACK PANTHER
```

These descriptors reflect a range of problems specific to the USA, their presence in the Thesaurus stemming from the significance of these realities to the country. The necessity of their inclusion to varying extents in other thesauri should be decided with due account of IRS parameters such as the volume of the stock on the problem

and the users' interests.

Thus, the cited examples show that in a number of cases branch thesauri do not consider the necessity of integration of existing branch terminological systems, but reflect some concrete individual terminological system, more often a system of its own authors. Therefore in the development of linguistic tools oriented to the processing of the content of documents which are being compiled by scientists of different schools and trends existing thesauri can be used only as a source of descriptors representing one of the terminological systems.

Multilingual Thesaurus and Terminological System

It was said earlier that the specific feature of the social science is the fact that the stratum of the terminology includes the vocabulary of several terminological systems. They resist unification and standardization. One should take when taking into account this specific feature in the development of an IRL, especially an IRL oriented towards the processing of a multilingual document flow.

The aforesaid should also be fully considered in constructing so-called multilingual thesauri, the necessity of which is determined by the development of international cooperation in the field of information.

For instance, the development of the MISON information network presupposes that the member-countries information will come already prepared for input into the data base. This has made it necessary to develop and use multilingual branch thesauri of the MISON system using Russian as its working language. The result is the neccessity to reflect in the NT certain number of notion characteristics of the member-countries' terminology.

The study of the materials devoted to the project for compiling multilungual thesauri as well as the analysis of the existing multilingual and unilingual social science thesauri show that attention, is mainly being given to the expression plane of the descriptors since the central problems here are the unification of the verbal form of the terms, the equivalence of the translations of descriptors into different languages, etc.

As regards the unification of the expression plane of the descriptors, it should be noted that in the IRL as in an artificial language the expression plane of the descriptors does not play an essential role. Considerable progress can hardly be achieved in the establishment of multilingual social science thesauri in this way. Furthermore, from the point of view of the specific features of the social science terminology there should be no striving, not even at best , to compile multilingual thesauri which would have an equal expression plane for each language. On the contrary, in social sciences those are the descriptors with an equal expression plane

(so-called international terms), which should be made object of the most meticulous semantic analysis because polysemy and homonymy are appearing most frequently here.

It is the semantics that should be made the central object of linguistic efforts in compiling a multilingual thesaurus since there is no ensuring the accuracy and unambiguity of the indexing of documents and requests, and hence the efficiency of solving information problems in general without harmonizing the semantic plane of each descriptor in all languages used in a multilingual thesaurus.

Naturally, in compiling a multilingual thesaurus it is necessary to proceed from its specific functional features: it must ensure the indexing of the multilingual input flow of documents and requests coming from users who live in different countries (and in the case of an international system in the regime of separate processing of incoming documents) and the presentation of the output information flow on request in any of the languages of the countries which are party to this form of international cooperation. The recognition of such specific features of a multilingual thesaurus inevitably poses the same question of integration of different terminological systems in it. However, as is shown by the concrete analysis of existing thesauri, their compilers sometimes create a thesaurus in one language and, most important, within the framework of one terminological system and then simply translate it into other languages. The semantic power of a thesaurus of such kind is not sufficient for describing a multilingual flow of social science documents and for the correct indexing the users' requests. One of the natural languages, of course, should be used in constructing a thesaurus but only as the basis for the conceptual integration of terminological systems. Such a version in one language must be model from the point of view of semantic content, i.e., of the conceptual system presented in it.

When such an approach is adopted the multilingual thesaurus will represent the totality of bilingual NTs in the form of national versions correlated with the model in pairs. Naturally, in the presence of a model version it is easy to increase the number of national versions since the work will be reduced to the formation of an expression plane in some concrete natural language. The model version executes the function of registration of a set of notions and their expression plane relevant to the retrieval tasks. All necessary changes are being made in the model version and then automatically in all national versions. This results the possibility of effective control of all national versions, consequently, of the multilingual thesaurus as a whole. When working with the system of indexers or users from other countries we face the task of overcoming a dual language barrier: they would have to know the system's IRL and the natural language at its base. If the first barrier can be surmounted merely by studying the

information retrieval language, the second is to be overcome by using a concrete national version of the multilingual thesaurus applied in the system.

Since the specific differences between social science thesauri and terminological systems and the necessity of integration of the latter's conceptual facet in the thesaurus have already been discussed, now it can be said that the multilingual social science IRL in terms of its semantics can be regarded not as a qualitatively new phenomenon, but as a second stage in the development of the thesaurus for the processing of a multilingual document flow. The specific distinguishing feature of the multilingual thesaurus is the existence of the unified integrated conceptual system reflected in different expresion planes of all the national languages included in this thesaurus.

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/INION AN USSR/

Personal Computers as an Instrument of Efficient
Operation of Information Retrieval Systems.

At present there exist a great number of automated
Information Systems (AIS) embracing Information Retrieval
Systems (IRS), that offer a user various data banks (DB).
Data banks are constantly accumulating new information and
covering new subjekt fields.

The functions of AIS in information processing are
expanding accompanied by the development of new up-dated
IRS. The progress of soft- and hardware promotes introduction
of new computerized information services and the increase in
the number of those users who get telecommunication access
practically to any large data bank with minimum technical
facilities available for the user.

Introduction of computer technologies into information
systems has opened up new prospects for servicing users while
raising new problems for IRS researchers and users. One of
them is the problem of the user's direct on-line access to
the automated system. Every researcher strives to make AIS
accessible for a user with minimum specialized training with
the help of various, sometimes unique, methods, such as
dialogues, new expressive means in information and commands

presentation on the screen, the subsystem of assistance ("HELP" facilities) and diagnostics. Detailed manuals and destriptions giving the necessary data on the system, recommendations and directions are being prepared. Practically every researcher tackles the problem of the user's convenience individually and adds a peculiar touch to his system.

We are not going to discuss the advantages and drawbacks of individual IRS, but the very existence of their various specific features necessitates the user to train to operate every new system though in fact they do not differ radically .- as a rule, the case in point is access to various data files in the given subject field. Thus the diversity of the available IRS makes it indispensable for the user to know and bear in mind a lot of additional data on ways of access to data bases, capacities of different retrival languages and sets of commands, etc... There is also a contradiction between the abundance of facilities, i.e. the IRS complexity, and the user's efforts to master the system. The increasing number of accessible data banks, the natural strive for the utmost exploitation of the information system make it next to impossible to resolve this problem and reduce the efficiency of every individual AIS. It is not difficult to enumerate any ten data banks on the given subject field, but no user is likely to know how to work with all these ten data banks.

This problem is especially pressing in the field of the humanities, because usually humanitarians are in need of getting access to a great number of information sources and

the faster they can get the required complete information, the better are the results. On the one hand this is a positive prerequisite for AIS introduction stipulating for the interest of their future users to the system possibilyties.

On the other hand the level of the specialized training of users working in the sphere of humanities, as a rule, is very low, and above all, the stereotypes of traditional information acquisition technologies are too strong. Very often humanitarians, simply have no experience in using computerized systems in their professional activity and have to spend much time and effort in order to master the IRS. These difficulties are especially vivid in the work of the automated information centres (AIC), which are aimed at providing multipurpose information for various contingents of users. As an example we can cite the INION of the USSR Academy of Sciences, where the AIS in social sciences (AISSS) including IRS, functionating with telecommunications, has been developed and introduced. An attempt to organize the training of IRS users and to solve the problem pertaining to the increase of the efficiency of work with DB, shows that measures should be taken towards the drawing of users and IRS together, the simplification of the data exchange operations and maximum possible clarity of dialogue.

While training the users to work with various IRS the main difficulty lies in the absence of general training programs, covering the whole complex of basic operations and in the necessity to master too many particular details. This

brings forth the task of choosing the "nucleus" of knowledge and skills necessary for the work with any IRS. In this case only the practical work with IRS will determine the level of the detailing of knowledge exceeding the limits of the "nucleus". Classification of users according to professional and informational interests promotes the solution of the problem.

The application of the corresponding IRS sets to this classification will bring the possibility to create a number of training programs, meant for various groups of users and different levels of program elaboration.

The task of choosing the "nucleus" of necessary knowledge is complicated by the variety of AIS architectures. The absence of unification in this sphere represents the historically shaped situation. Generally accepted DB classification based on conceptual characteristics - relational, network, hierarchical etc. - doesn't reflect the specifics of users work with IRS, it merely serves as researchers tool. In the choice of architecture for the man - machine interface there exists a large number of variants, constantly replenished by new technical input-output facilities, new linguistic and technological conceptions. Frequently the choice of this or that solution solely depends on the arbitrary rule of a researcher. In any case the user accustomed to one type of the man - machine interface architecture, has difficulty in being adapted to another one while mastering a new IRS.

The creation of a unified standard in the field of man -

machine interface for IRS seems impossible, but the analysis of the most widely spread data bases management systems (DBMS) shows that on the functional and technological level they have more common features than distinctions. In any case while solving the task of choosing the "nucleus" of knowledge it is possible to find "enveloping architectures" for a sufficiently wide class of IRS, e.g. for bibliographical informations IRS.

The development of such "enveloping architectures" is the first step towards the elaboration of both perspective traning programs and new universal facilities of practical work with different IRS. At the same time the most important problem is the creation of structures for the description of the general features of information - retrieval languages (IRL) and rules for request's wording.

First practical steps in solution of these tasks are being taken at present at the INION the USSR Academy of Sciences. The designed complex is built on the basis of personal computers (PC) with modem (modulator-demodulator) for connection to the telecommunication channels. The software package (so-called preprocessor) must guarantee the choosing of "nucleus" and masking of particular components of various IRS, standardization of the user's work system, possibility of tuning man-machine interface on the user's desire by changing formats of information printout, by correcting signs and mnemonics. The following possibility is forseen: the optimization of the working with IRS by way of carrying out intermediate operations on PC without turning to

a remote computer and execution the successions of commands. With the help of the preprocessor it is possible to widen essentially also the functional means of various IRS in information retrieval. For example: to exercise retrieval in a set of data banks by one retrieval imperative, to create local data banks on PC on the basis of received information during the retrieval, to catalogue profiles etc. It is necessary to elaborate the "HELP" system on the part of PC, it will give information on the current IRS, system of commands and IRL.

Such approach allows to solve not only numerous problems mentioned above, but gives a series of extra advantages. The user is dealing with an architecture, in which the training means may be built into "HELP" system of preprocessor. The training is becoming more efficient, linking closely with practice in work with a complex of several IRS, the productivity of labour is increasing due to total utilization of resources of all IRS, wich make up the complex.

It should be noticed that the application of the preprocessor doesn't rule out the usual access to any IRS of the complex and doesn't substitute service means proper of a specific concrete IRS - such as additional linguistic means (lexical data banks, classifications thesaurus etc.) internal "HELP" systems, which stay available for the user. Practically the preprocessor unifies in the highest degree the form of contact of the user with IRS, creates ergonomic man-machine interface - especially in this field PC has the richest set of expressive features.

Major components of preprocessor are its external architecture, set of commands and auxiliary data bases. The external architecture is designed in such a way that for the user the preprocessor is a dialogue system oriented towards work with the flow of data from the source to the user with means of flexible control over this process. A separate operation of data transfere always may be described by a declaration of a "where from" - "what" - "where to " - "how" type, requiring the minimal set of terms, where

"Where from" - the Source of data, i.e. one or several of available IRS;

"What" - Profile, i.e. a description of array of documents on IRS;

"Where to" - Receiver,i.e. address for information output (the monitor screen, printer, temporary file of user or its local data bank);

"How" - Printout format, special conditions etc.

The second component - a set of commands of the preprocessor - is divided into sets by the functional sign.

Set of commands of declarations:

commands:

   - declarations of Source;

   - declarations of Profile;

   - declarations of Receiver;

- declarations of transfere modes.

Set of commands of transfere control:

commands:

- launching of transfere process:
  - on current declaration;
  - on catalogued declaration;
  - breaking of transfere process.

Set of auxiliary commands:

commands:

- supporting of declarations' catalogue (recording, deleting);
- of "HELP" systems:
  - on preprocessor;
  - on available IRS;
  - on training programs.

The third component - auxiliary data bases. They include a catalogue of accessible IRS (a BD catalogue), a catalogue of declarations and, if necessary, other data bases.

A catalogue of accessible data bases contains, firstly, an information on the DB necessary for a user, including:

- a name, a DBMS type, a researcher, an owner;
- coverage:

- subject;
- qualitative (its volume and since what
  time it is being accumulated);
- structural (the structure of a
  document, field description etc.);
- format of printouts;
- a list of available operations;
- IRL description;

and, second, an internal information (not available for the
user):

- communication protocols;
- entry-exit procedure (a password);
- algorithems of IRL conversion;
- algorithems of an analysis of output
  by elements;
- table on correlation between
  preprocessor's directives and DBMS
  operations;
- order of access to "HELP" facilities;

A catalogue of declarations contains information on
user's profiles and is constantly available during the
user's work. The catalogue of declarations consists of a
working and permanent part.

The working part serves for the recording, modification
and a temporary storage of declarations in the course of
the user's work.

The permanent part is stored on peripheral memory of a PC (for example, on floppy disks) and contains catalogued user's profiles.

Thus, a process of catalogueing of profiles is a transfer of a corresponding declaration from a working into a permanent part of the declarations catalogue.

While projecting and realizing such a complex of programs researchers, after selecting the IRS's for a preprocessor according to the principle of functional affinity, have to specialy an architecture of a preprocessor using an idea of "enveloping architecture", a "nucleus" of knowledge and skills, to single out and generalize necessary IRL elements and to create algorithems of IRL conversion. It is necessary at the most early stage of projecting to ensure wide possibilities for broadening and modifying the system and to provide the maximum of independence from concrete technical facilities and operating systems with the aim of ensuring mobility of programs.

The project is only generally outlined in the given work and is not at all complete. A practical realization of the project will undoubtedly lead to a more detailed elaboration of certain points, and to replacing some elements of the structure by new ones. At the INION the USSR Academy of Sciences it is planned to conduct a complex of works on the development and introduction of such preprocessor in order to raize the efficiency of training and information servicing of the users of the Network of Automated Centres of Scientific Information on Social Sciences. It is also planned to use

such means by creating a network of Distributed Automated
Data Bases on Social Sciences in the Soviet Union and the
countries - participants to the International Social Sciences
Information System (MISON).

MICROCOMPUTERS IN BIBLIOGRAPHIC WORK

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In order to set up and use computerized information services based on microcomputers, information specialists do not need to be programmers, but they have to know the criteria on the basis of which appropriate hardware and software can be selected. The first part of the lecture will, therefore, deal with the characteristics of the central processing unit, keyboard, screen, external storage units, printer and operating system to be taken into account in preparing for the computerization of information work.

UNESCO offers free of charge an efficient system for the storage and retrieval of bibliographic information and the preparation of catalogues/indexes. The lecture will present the way in which a new data base can be created, an existing data base updated, information retrieved and printed using this software.

Microcomputers can be used as intelligent terminals in connection with large international on-line bibliographic services. Technical and commercial aspects of this application will be discussed.

Some new possibilities offered through the use of data bases available on Compact Disks will be presented.

Computerized information services need marketing, as do other products and services. Objectives and methods of such marketing activities will be discussed briefly.

The use of computer-assisted information by researchers and decision-makers

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OUTLINE

1.0 Introduction:

The use of information must be seen in the context of the work performed by people. How information is defined is context-dependent - what is information to one person in one role is nonsense to another in a different role. What is understood by one person with a particular background knowledge will be "noise" to someone without that knowledge. This paper examines these concepts in relation to information use by researchers and decision-makers in business and local administration.

2.0 The role of the researcher:

discovery;
observance of scientific method;
recognition of prior work;
generation of ideas;
open reporting to peers.

2.1 Computer-assisted information and the researcher:

online bibliographic and full-text systems provide access to prior work and provide a source of information for the generation of ideas.

access to actual research, which may be paper copies or online full-text, provides guidance on appropriate method and can reduce the time taken to complete projects.

3.0 The role of the entrepreneur:

effective management of the business;
efficiency;
new product development;
market identification.

3.1 Computer-assisted information and the businessman:

"information" in business is information about the business _first_ and information about the environment second;

information about the business is largely internally-generated information, and there is at present considerable interest and activity in

the use of IT to manage business information of this kind, particularly in large organizations. The microcomputer has also brought the possibility of computer-assisted information to the attention of small and medium-sized businesses.

information about the environment comes from many sources, ranging from newspapers to word-of-mouth. The latter kind is collected by virtually all levels of management, and particularly by the sales force, who collect information on customers and competitors. Some word-of-mouth information is transferred to computer systems in-house, some to manual systems, some never leaves the heads of the information gatherers.

formal information from the environment also has many sources, and here online information systems can play a major role, particularly in areas such as financial information, company information, information on markets, and information on the credit-worthiness of customers.

4.0 The role of the local government administrator:

the management of "human service organizations";
different criteria of "performance" at different levels of the organization;
increasing demands for efficiency and cost-effectiveness;
management in a changing and turbulent environment;

4.1 Computer-assisted information and the administrator:

like the business-man, the administrator needs _first_, information about the organization. In human service organizations where decisions affect people as clients, the necessary inform-ation is about people and the effectiveness of the organization's response to needs;

internal information systems using computers are now increasing in importance in local government in all countries. However, many systems are "technology-driven" with insufficient regard for the nature of work in human service organizations;

again, like the businessman, the local government administrator needs information about the environment. This information includes:

information about the extent of need in the community, whether it is for housing, or health services, or social welfare

services.   Increasingly, information of
this kind is being made available by
computer;

information about developments within other
sectors of the local government which may
affect the department which he controls.
This information is highly "political" in
character and is not usually
computer-based;

information about the practices of other
organizations of a similar kind - again,
not usually computer-based, but in some
areas, e.g. educational administration,
attempts have been made to computerize some
of this kind of information;

research-based information, both carried
out internally in departments, and that
carried out by other agencies in central
government, private foundations,
universities, etc.   Some, but not all of
this information is computer-based.

5.0   Conclusion

Computer-based information is an information resource
for all three roles discussed in this paper, but only the
researcher works within an ethos which supports the
development and use of online bibliographic database
systems of the kind which have been developed in recent
years.   The real challenge for information science is to
take its knowledge into the sphere of the decision-maker
where the information needs and information-seeking
behaviour are very different.

Péter Horváth /Hungary/:

The use of computer assisted information by researchers and decision-makers in East-European view

/Summary/

1. Usage of modern means of information technology in social science information and documentation (SSID)

The paper will focus on the usage of information technology in East-Europe(based on the example of Hungary) with special regard to SSID. It can hardly be denied that the spread of the most modern means of this technology was relatively slow, especially compared to other advanced countries and fields. The automatisation of SSID lags behind that of scientific and technical information(STI) in terms of hardware supply and software developments as well. Factors, like the inadequate market for social science information(with for example a very low level of solvent demand and consequently with a not too large scale of services and products offered on the supply side) or the sometimes unsatisfactory level of funding researches in social sciences(with regard to the infra-structure directly related to social science researches, eg. the use of external computerised data banks) might be brought up in this context.

Despite the not insignificant efforts towards cooperation in national, regional and international level the lack of necessary standardization also presents difficulties.(Even in cases of the introduction of accepted standards certain institutions are reluctant to change over to them or the process is very slow.)

Economic problems have played an increasingly significant role lately in the application of the tools of modern information technology. As it is often the case with new technologies developed elsewhere the hardware elements are much more expensive since the producers are trying to recover

the costs of development. Due to other specific causes as well which are inherent in the present economic situation of most East-European countries the physical means of computer technique(that is hardware) are relatively more expensive than labour. In time of relatively or even absolutely shrinking budgets of information centers and libraries the direct economic motives for applying modern information technology are missing. One can add that the lack of capital and other financial difficulties together with such general economic problems as currency shortage might prove to be very serious threats not only to SSID-related activities but to all information-related activities and branches. According to some authors the unsatisfactory conditions of the development of the "information industry" might even slow down the pace of general economic development(1).

Partly rooted in economic grounds infrastructural difficulties tensions and bottle-necks again hamper the more rapid spread of information technology further. Telecommunications and networks for telecommunication are absolute musts in using information technology and their lack of adequacy frequently poses threats or causes failure of otherwise sound experiments in applications.(Eg. the Hungarian telephone network presently very often frustrates the users of international data bases or data banks through making the connections "noisy" or sometimes impossible. In fact it sometimes frustrates the potential users of domestic information systems as well - not to speak about the rate of frustration in the case of average telephone user...)

Common to many of the smaller countries is the problem that advanced hardware and software must be adapted to specific circumstances and conditions, to languages, to certain technical facilities, etc.

Some other factors wich must be mentioned here:
- lack of awareness of information and the lack of motivation to use it;
- problems of actual access to information as contrasted to its identification;
- political problems(eg. autarchic information policies, embargo of new technical equipment or even that of data bases).

In spite of the constraining factors there is a marked tendency towards spreading the use of computers in SSID. Just to mention a few reasons:
- speeding up the process of information retrieval as a reflection of the continuous adjustment to the growing and deepening, diversifying users' needs;
- taking advantage of the more powerful and comprehensive searching capabilities and retrieving facilities with special benefits to the intermediaries and users of social science information;
- sparing labour from repetitions, routine, time consuming tasks (through it is often debated whether the application of information technology goes together with actual savings in monetary terms or not, it certainly has the effect of substitution in terms of different categories of labour and the required skills).

A more and more strongly emphasised will can be felt from the part of the producers and users of social science information to enjoy at least approximately similar advantages to those enjoyed by the producers and users of scientific-technical information in terms of relevance,

speed, coverage, etc.

2. Computer assisted services

There are different classifications of computerized information systems, the principles of distinction among them are usually based on the size(or capacity) of the computer used, on the way of the access to them and on the content of the databases stored by computers. Without aiming at completeness one can talk about mainframe or personal computer assisted systems, information systems with batch processing or online systems and bibliographic or factographic information systems. These are only some of the basic categories: there can be overlappings between the different classes(eg. combined bibliographic and facto-graphic systems).

In Hungary the period of the concepts of the so called nation-wide and overall information systems began at the end of the 1960s. One of the objectives behind these concepts - among many others - was "the concentrated and coordinated use of technology". Despite this objective no sizeable or capable computer center with the single function of providing back-up services of special bibliographic or factographic information in the field of SSID has ever been established. Without going into details the failure of these projects - according to many - can be attributed mainly to the fact that no single government agency or institution received the exclusive authority or responsibility to carry them out.(In fact these still have not been created a government-level institution which would bear the sole responsibility for the management and control of the information-related activities.) Then, in the middle of the 1970s decentralisation-oriented concepts began to emerge parallel to the reform of the Hungarian system of economic

management and control. The idea behind these concepts was as follows: individual(on institutional level) efforts for the application of modern tools of information technology coupled with a certain level of central incentives. At that period these efforts were hampered by:

- lack of finances;

- lack of powerful machines;

- lack of trained personal with expertise both in library science, information and documentation and computer technique. However, computer assisted SSID started in a few priorised fields(eg. economic), sociology, legal and administrative science, pedagogy) and the efforts have not remained fruitless.

Presently more than 40 computerised information services are in operation in the field of STI in Hungary(2). However, less than 10 of them can be grouped to SSID and part of the latter category are only adapted versions of-or intermediary services to - the foreign data bases. As to the actual access to online databases produced in foreign - mainly in western - countries, now more than fifty institutions have passwords to any of the large online hosts(eg. DIALOG) and some of these institutions have an interest in SSID as well.

3. User categories and preferences

There are again different categorizations pertaining to the different types of users of information. One can classify(eg. the potential users of economic and business information as follows(3):

- managers on the highest level of public and economic administration,

decision makers in economic policy;

- educators and researchers;

- enterprise level managers and decision makers;

- information mediators in libraries and information institutions;

- "users" of popular economic and business information.

In the field of social sciences the levels of the so called hierarchy of the users are similar for other disciplines as well. Naturally members of the different categories of users have different characteristics and/or preferences for the use of information. Some of these are well-known and obvious(such as the preference for synthetized information among decision makers at the highest levels) while other characteristics(eg. the role of interpersonal relations in obtaining information) need more study and investigation.

4. Use of computer assisted information system: problems and perspectives

While the heated debate over the question "to computerise or not" has been settled over the last decades within and outside the walls of libraries and information institutions;and even the most tradition-bound librarians are,more or less aware of the advantages of using computers in SSID it is still not uncommon that the provides of computerised information service have to tackle with negative approaches towards computer assisted information use. Experiences have shown that besides the problems caused purely by technical factors(such as telecommunication

failure, insufficiently devised terminals or "user hostile" systems) the contents of these systems and the users knowledge relating to the systems, construction, ways of accessing, prices, etc. of the data bases are much more important factors influencing the usage of computer assisted systems.

Up to the present comprehensive user surveys relating to the usage of computerised systems have not been conducted in Hungary. There have been some investigations however about the users of online services(4). Some conclusions about the actual usage:

- much higher proportion of enterprises and cooperatives than academic institutions, institutes of higher education and government bodies;

- much higher proportion of natural and technical sciences than social sciences according to the subject of the searches;

- the gap is the largest between the users' need and the actual possibilities provided by the data bases in the field of business and economics.

Questions of actual usage of these services are furthermore complicated by the emergence of the practice of direct access by end-users since frequently they are not fully aware of all the ways and means of communicating with the computer in spite of the tremendous efforts made by the providers of the computer-assisted services to make their services really user friendly.

Presently - at least according to the Hungarian experiences - it seems to be an intriguing and decisive feature of the market of SSID services that demand does not determine supply but just the opposite is true; that's why the policy of the intermediary institutions in this field has a great significance. Just to make a short illustration: the majority of researchers in social sciences is much more interested in factographic data than in the results of bibliographic literature search regardless of the fact whether they are provided by computerised services or by traditional, manual services. It is really important that expertise in the construction and structure of data bases, in ways of efficient searching and provision should be at the disposal of the user(or end-user) since it is the only way to make full and justified use of computerized information services.

With respect to its development it seems to be generally accepted that the "online information industry" is now fairly developed considering its technical side. The data bases on the other hand need careful development either in terms of construction and structure or in terms of contents. Further fields for improvement are as follows(5):

- speed(improvement of the slow access and retrieval through perfecting users' hardware facilities and providers' software);

- price(simplification of charging procedures and pricing structure);

- standardisation(in the field of command languages and software);

- current data(more efficient ways of amending the data included in the data bases);

- menus(development and spread of user-friendly software with more simplified menu systems).

If these features are generally improved they will have the effect of more intensive usage in the countries of the region as well. User education and sound intermediary activities however will remain the key questions in ensuring the rational use of these data bases.

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ALTRES PUBLICACIONS

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VALORACIÓ PERSONAL

VALORACIÓ PERSONAL

L'assistència al VI Training Seminar organitzat pel Vienna Centre a Moscou cal valorar-la com molt positiva. Especialment per la quantitat i qualitat dels contactes establerts amb els participants, a nivell formal i informal. També per la significacició que la nostra presència va suposar en quan representants de Catalunya a una trobada d'aquest tipus i primordialment davant del Vienna Centre. I per últim per la quantitat d'idees que es poden derivar de les diverses ponències i aportacions que es varen fer al Seminari.

En aquest darrer aspecte voldríem remarcar l'interès i la importància de que a Catalunya s'arbitrés des d'ara mateix una política de caire institucional que contemplés la coordinació i sistematització de tota la informació i documentació que es produeix a Catalunya dins l'àrea de les ciències socials. Aquesta política possibilitaria i facilitaria no solament la cooperació i coordinació amb d'altres països, a l'hora de potenciar la recerca o recerques de tipus comparatiu (element clau pel futur del desenvolupament de les ciències social europees), sino que permetria que la recerca i la docència en aquest domini a Catalunya estalviés gran quantitat d'esforços i recursos.

La UNESCO a través del Vienna Centre i d'altres departaments i divisions ho esperen tot de la col.laboració de les institucions i dels investigadors dels seus països membres. Nosaltres creiem que tan la Fundació Bofill· com el Consorci d'Informació i Documentació de Catalunya poden ser institucions pioneres en aquesta política, com de fet ja ho són. Les noves tecnologies de la informació i de la documentació són eines que haurien de ser ampliament contemplades en aquesta mateixa línia. Existeixen a més organitzacions internacionals com la IFDO (INTERNATIONAL FEDERATION OF DATA ORGANIZATIONS FOR THE SOCIAL SCIENCES) que coordina tots els Arxius Centrals de Dades dels diversos països que a bon segur brindarien el seu ajut i la seva col.laboració per endegar un projecte d'aquest caire.

Nosaltres com a membres de la Universitat Autònoma (Teresa Torns) i del CIDC (Josep Jiménez) esperem que aquestes possibilitats, aquí apuntades de manera embrionària, siguin una realitat a curt o mig termini.