INFORMATION SYSTEMS AND SERVICES IN SCIENCE & TECHNOLOGY
A Select Annotated Bibliography (1989-97)

Dissertation
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IN THE NAME OF ALLAH
MOST GRACIOUS
MOST MERCIFUL
Dedicated
to my
Loving Parents
who have
always been a source
of Inspiration
to me
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(SHEEBA AFZAL)
AIM, SCOPE AND METHODOLOGY

1. **AIM AND SCOPE**

The present work in the form of annotated bibliography is the result of a continuous and constant attempt of searching all significant literature available on Information Systems and Services in Science & Technology, a topic that has great and growing importance in the present era. Attempt has been made to cover at least all representative type of material on the subject, specially in the field of Physics, Chemistry, Nuclear Science, Medicine, Agriculture and Biology.

The study includes 203 articles on the topic. The work is divided into three parts:

**The Part I**, is the descriptive part that deals with different information systems & services in the field of Science & Technology.

**The Part II**, is the main part of the present study. It consists of an annotated list of 203 articles on the subject. The entries are not comprehensive but are fairly representative on the subject.

**Part III**, Includes Author Index, Title Index and List of Subject Headings. A list of periodicals consulted during the study has also been given in this part.
2. **METHODOLOGY**

To collect material on the subject, secondary sources such as LISA, library literature, and current research were consulted to approach primary sources which include periodicals. The titles of the periodicals used for compiling the bibliography are listed in part III.

(i) **Standard Followed**

The Indian standard recommended for bibliographical reference (IS:2281-1963) titles, of periodicals are written in full form.

(ii) **Subject Headings**

Attempt has been made to give co-extensive "subject headings" as much as possible and allowed by natural language. If more than one entry comes under the same subject heading. These are arranged alphabetically by the author(s) name, or by periodical name.

(iii) **Arrangement**

The entries in the bibliography are arranged alphabetically among the subject headings.

The entry element of the author is in capitals, followed by the secondary element in parenthesis using upper and lowers and then the title of the articles, subtitle (if any), then name of the periodical being underlined followed
by the volume, issue number, the year, the month in abbreviated form, giving by using inclusive notation of the pages of the articles. Then each entry is followed by indicative, annotative and descriptive abstract of the article.

Entries of periodical are arranged as follows:

(a) Serial number
(b) Name of the author(s)
(c) A full stop
(d) Title of the contribution including subtitle and alternative title if any
(e) A full stop
(f) Title of the periodical underlined
(g) A full stop
(h) Volume number
(i) Comma
(j) Issue number
(k) A semi colon
(l) Year
(m) A comma
(n) Month
(o) Comma
(p) Date
(q) Semi colon
(r) Inclusive pages of the article
(t) A full stop
SAMPLE ENTRY

FITZGERALD(D). Flat-rate pricing for MEDLINE. American Medical Informatics. 30, 8; 1995, August, 770-1.

Abstract

The entries in the bibliography contain abstract giving the essential information about the article documented. As far as possible, informative abstracts were given.

3. INDEXES

This part of the bibliography contains author, title and list of subject headings in alphabetical sequence. Each index gives the specific entry or entries in the bibliography by the help of entry number.
PART ONE

INTRODUCTION
INTRODUCTION

CHAPTER - I

Information is a basic resource and link between a variety of activities like intellectual material, in the society, institution and individuals. Access to precise and reliable information scientific, technical, commercial and managerial at the right time and to the right person in the right form most conveniently usable by him, can help to minimise the wastage of resources due to unnecessary and unintended re-invention, re-discovery, re-development and the making of unfruitful decisions.

Information leads to knowledge. Knowledge is a prerequisite for wisdom which, when applied judiciously, contributes to prosperity in diverse areas of human activities—academic, social and industrial. Today, the world is so much flooded with documented knowledge that it requires some system to be followed for locating the exact information at a time when it is actually required.

Since, the year 1864, various information services are being brought out, in print, organizing first in England and later on in other countries. Since the mid-sixties and early seventies vendors who provided information service, in point started to computerize their in house operations.
1.1 **WHAT IS AN INFORMATION?**

The term information is extensively used in the documents on library science, documentation science, and information science. It is used with a variety of meanings. Some identify it with communications over transmission lines, measured by the statistical properties of signals; some identify it with recorded facts; some with the content of text; some with the experience stored in the human mind. Therefore,

*Information* is a property of data resulting from or produced by a process performed upon the data. The process may be simply data transmission; it may be data selection; it may be data organization; it may be data analysis.

*Information* is the message conveyed or intended to be conveyed by a systematized body of ideas, or its accepted or acceptable substitutes.

*Information* is the product of human brain in action. It may be abstract or concrete. It is obtained by the processing of data.

*Information* has many aspects by nature. According to the Mathematical theory of information, the amount of information in a message is related to the probability ratio of the message. The more it reduces probability, the more information it has. This theory believes that the prior knowledge of the recipient may reduce the amount of
information in a message. The semantic theory of information, on the other hand, suggests that a prior knowledge may increase the amount of information in a message. The former theory views information from technical ring and is concerned with the problem of accurately transmitting the symbols communicating the information. BROOKES says that knowledge is a sum of many bits of information and when more information is added to the existing knowledge structure, it gets modified. His views are expressed by the following equation.
\[ K(s) + 1 = K(S + \Delta S) \]
when information 1 is added to the existing body of knowledge K(s), it results in modified knowledge K(S + \Delta S) BELL says, "information is news, facts, statistics, reports, legislation, tax-codes, judicial decisions & resolutions."

MACHLUP has also defined information, differentiating it from knowledge at the same time, According to him (i) information is timely, transitory, perhaps even ephemeral, whereas knowledge is of enduring significance (iii) Inf. is a flow messages whereas knowledge is a stock largely resulting from the flow.

1.2 NEED FOR INFORMATION

Information is power and its necessity and importance are being felt more and more by policy makers, planners and the people in power is all those who are connected with taking decisions, affecting the society as a whole because
information provides the sound basis for taking gainful decisions. Similarly, governments have realized that information is an instrument of change which is essential for development in the fast-changing societal needs while the economists have also started considering information as a non-depleting source which can be easily subjected to economic analysis thereby helping them to laund purposeful economic planning for the welfare of the society according to their needs and in consonance with the capacity of the nation.

1.3 KINDS OF INFORMATION

According to J.A. Shera, information is of six kinds:

(i) **Conceptual Information**: The ideas, theories, hypotheses about the relationship which exist among the variables in the area of a problem.

(ii) **Empirical Information**: Experience, the data of research may be drawn from one’s self, or through communication, from others. It may be laboratory generated, or it may be product of the ‘Literature Search.’

(iii) **Procedural Information**: The methodology which enables the investigator to operate more effectively. Procedural information relation relates to the means by which the data of the investigation are obtained, manipulated, and tested; it is essentially methodological, and from it has been derived the ‘Scientific attitude’.
(iv) **Stimulatory Information**: Man must be motivated and there are but two sources for such motivation, himself and his environment. Stimulatory information that is environmentally derived is probably most effective when it is transmitted by direct communication the contagious enthusiasm of another individual but whether directly or indirectly communicated it is probably the most difficult of all forms of information to systematize. It is by nature fortuitous; it submits unwillingly to direction or compulsion.

(v) **Policy Information**: This is the focus of the decision-making process. Collective activity necessitates the definition and objective and purpose, the fixing of responsibility the codification of rights and privileges, and the delineation of function.

(vi) **Directive Information**: Group activity cannot proceed effectively without coordination, and it is through directive information that this coordination is achieved.

1.4 **Characteristics of Information**

Organized information activities-generating, recording, distributing, processing and disseminating information have become possible because of the characteristics of information. A characteristic is an indication of quality or special features. Characteristic of information comprise qualities inherent in it, qualities assigned to it and qualities attributed by perception and social values. An
inherent quality of information is that it has none of the physical properties of colour, taste, mass and shape. Another inherent quality is that it is perishable, unless it is stored in the memory of the brain. The study of the characteristic of information will be incomplete, at least in the context of organized information activities made in isolation of the study of communication mode used for transmitting information and the physical media by which information is represented through the use communicated mode. The most commonly used communication mode is language and the important physical forms of records are paper, magnetic tape, films and semiconductor chips.

The main characteristic of information, communication mode and physical records which are relevant to organized information activities, including those of libraries and information centres are given:

<table>
<thead>
<tr>
<th>Inherent characteristics</th>
<th>User-dependent characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract, objective can be structured, analyzed, synthesized, extracted, summarized, abstracted, reviewed, classified, stored and recalled, interrelated to other pieces of information, shaud, transmitted, suppressed, destroyed, disseminated.</td>
<td>Subjective can be evaluated, interpreted, used, misused, valued, interrelated to use.</td>
</tr>
<tr>
<td>Concrete, objective can be recorded, transmitted, translated, stored and recalled, surrogated.</td>
<td>Contextual</td>
</tr>
</tbody>
</table>
Concrete can be stored converted to other media, duplicate stored and recalled, interrelated, formatted, surrogated, suppressed, relegated, destroyed.

Information is derived from experience, observation, and reading. It can be unorganized or tightly structured. Williams has noted six parameters of information.

(i) **Quantity** of information which can be measured by the number of documents, pages, words, characters, bits, drawings, pictures, etc.

(ii) **Content** the meaning of information.

(iii) **Structure** the format or organization of the information and its logical relationship between statements or elements.

(iv) **Language** the symbols, alphabets, codes and syntax with which the ideas one expressed.

(v) **Quality** that which characterized the completeness, accuracy, relevance and timelines of information.

(vi) **Life** the total span of time in which value can be derived from the information.

1.5 **THE SYSTEMS CONCEPT**

The term system has become quite popular in recent years. It has been used to describe many different things, particularly those activities required for data
processing. The development of the digital computer and its related technology popularized the use of the word system and a methodology for the development of systems to satisfy the information requirements of modern organization.

A. **System** can be defined as any set of objects and ideas, and their interrelationship which are ordered to a commingle or purpose. Figure illustrates a conceptual model of a system. In the illustration the various symbols. A through I represent the components of the system. The relationship among components, identical symbols represent a unique relationship among one or more components, which can be termed a subsystem. The use of the term subsystem facilitates analysis or communication for example, we can describe the system by its components A, B, C, .... I or by its sub systems AbC, DEFG, HI, which ever serves our purposes better.

**Conceptual Model of a System**

```
D
A E H
B F
C G I
```

We can also define system as a system is an arrangement of parts or elements working together to program a set of operation in the accomplishment of the purpose of the whole.
1.6 WHAT IS AN INFORMATION SYSTEM

The term information system refers to the methods, materials, media, producers and recipients involved in an organized way to effect information transfer within a specific field, activity or organization. An information system consists of a complex collection of information "messages", persons who produce and use them, institutions which process them, and a set of behavior patterns, customs and traditions by which these persons and institutions interrelated.

Any complex phenomenon encompasses a variety of aspects - physical structure, cybernetic responses to environment, chemical and metabolic balance, or information processing. Thus, a person can be viewed as a physical organism mode of bones and muscles, capable of performing mechanical tasks, as a chemical factory processing ingested food, water, and air and cavorting them to metabolic energy or as a thinking human being, taking in sensory data, making decisions and controlling its physical and chemical structure. A library can be viewed as a collection of physical books and records, as an administrative organization, or as an information processing system, taking in data and providing it in response to requests. It the aspects of specific interest are those that we identify as information processing, the phenomenon becomes an information system. Hence, the definition:
As information system is that set of aspects of a general system (a natural phenomenon, a physical construct, or a logical construct) that are identified as information producing.

1.7 OBJECTIVES OF AN INFORMATION SYSTEM

The basic objective of any information system can be stated as follows:

(i) To facilitate selection and communication of ideas from the points of their generation and making them available to the users.

(ii) To provide information specifically, thoroughly and expeditiously and present it in a manner most convenient to the user at a reasonable expense with a view to obtain conservation and utilization.

(iii) To promote contains investigation and research in the field of documentation and information system so as to develop better techniques and tools for speedy and economic selection, acquisition, storage and dissemination of information.

For the design and development of a good information system following points should be fulfilled.

(i) The system should be able to provide a current updated and comprehensive view of what is being done.

(ii) It should be able to help planners and decision makers decide that ought to be done in future. The system
should be action-based and as far as mission-oriented. (iii) It must be designed so as to overcome the many kinds of resistance which normally retarded the flow of information.

A good information system must be interactive, dynamic and capable of modification with changing needs. It must be able to provide information at different levels of aggregation filtering out irrelevant and unnecessary details according to the needs of a particular user, with minimum of cost and with greatest of speed with reliability.

Before planning and designing an information system, the specific purpose for which it is meant must be studied, while operating the system, the user studies must be conducted from time to time to provide efficient services and to modify the services in accordance with varying needs of users.

1.8 WHAT IS AN INFORMATION SERVICE

Information service is concerned primarily with processing and servicing of records and their intellectual contents. To do this effectively, it is not sufficient if one has thorough knowledge of the characteristics of physical records, one also ought to know the characteristics and impact of communication media and these of information, as the three have a symbiotic relationship.
**Information Services** is the term applied to the system of resources, personnel, activities, and materials for providing specific users with data, information, counsel, documentation, and/or documents.

**Information Services** has been defined as services provided by or for any information centre which draws attention to information possessed in its department in anticipation of demand".

The Information Services are involved in some form of dissemination. By dissemination we means a service that actually takes the information to the users preferably before he has to formulate a demand for it or in anticipation in other words current awareness services (CAS) and selective dissemination of information (SDI) in the broadest sense of the world. Traditionally, dissemination services have been the province of the specialist library or information unit. Therefore, the major emphasis of information work has been towards the sciences and the work has been done by normally feerly small information units. This traditional view of information services being provided primarily in the science & technology area by small units is new no longer violent. The information services can be divided into two broad categories.

1. Local information services are in-house.
2. External information services.
Locally Rendered Information Services are those which are given in the library by the library itself where all processes in the system are carried out at the library. These services can be rendered to the users by manual as well as computerized both for eg. general circulation, information bulletins, SDI and KWIC.

External Information Services are those that are commercially available. The external service can be used to realize an inefficient internal services. These services are ranging from their traditional trade mark, abstracting and indexing journals, to newer formats such as SDI and on-line retrospective searching. There are outlast 600 commercially available information services, many of which simply published an indexing and abstracting journals. Rest is provided by machine readable data basis for eg. MEDLARS, (medical literature analysis) INSPEC, CAS, etc. and retrieval system, information services in physics, electron technology, computer an control, chemical abstract service). Thus, their is apparently a fast growing realization of the need for & usefulness of, dissemination of information services and this new realization is difficult to quantity but can be seen in the changing patterns of users of many commercial as well as internal services, and also in the growth of new types of services. This is evidenced by the information services aimed at politicians, management, social sciences, economics, education and other soft subject
areas of non-productive type thus the traditional concept of science and technology having a quest information need and other areas having lesser needs is now no longer tenidable.

1.9 OBJECTIVES OF AN INFORMATION SERVICES

The overall objective of an information service system is to promote the use of the primary information through secondary information services, and provision of access to information. Again, the purpose behind these services is to help generation of new primary information for further use, understanding, evaluation and decision making, production of commodities and services, education communication and to help derivation of emotional satisfactory. For this purpose, the secondary information services, and source access services are meant to overcome at the right time the barriers between right information and right users. The recognized means for this are the library services, indexing services, abstracting services, transition services, reprography services, etc.
CHAPTER - II

DESCRIPTION OF SOME INFORMATION SYSTEMS AND SERVICES IN SCIENCE & TECHNOLOGY

Advancement of science and technology has given rise to a proliferation of scientific literature and information and the same hold good for agricultural sciences and technology and nuclear science. The sophisticated communication system and electronic data processing equipments have opened up new vision in the field of information handling. As a result several information systems like INIS, AGRIS, INSPEC etc. came into existence.

2.1 AGRIS

International Information System in Agricultural Sciences & Technology.

AGRIS: Its Origin

The origin of AGRIS goes back to 1969 when the Director General of FAO recognized that the problems of scientific communication within the field of agriculture had reached serious proportions due to the phenomenal growth of agricultural literature in the world and also due to the large number of services set up to deal with agricultural information most of which were totally un-coordinated. Further, recognizing that the information is a necessary input to agricultural research, practical agriculture and
the management of both, and questioning whether the existing systems provided for the free flow of information from the producer to the consumer, the Director General acted to set up a panel of experts on the International Information System for Agricultural Sciences and Technology. In July 1970, the panel recommended that

1. An International Information System for Agricultural Sciences and Technology (AGRIS) be established as soon as possible under the authority of FAO; and
2. The system should be organized at two levels:
   Level I should be a comprehensive documentation service providing current awareness;
   Level II should be network of services grouped by special field or mission, including specialized information services through abstract services, extensive indexes and other forms of individual and direct services to users across national borders and barriers.

The main objective of the AGRIS is to improve and expedite the exchange of agricultural information among nations of the world on the basis of multi-lateral cooperation and to avoid wasteful duplication of work in the field. It also aims at meeting the information needs of developing countries and help them to train their scientific and technical personnel also. It is essentially a mission oriented information system covering the entire field of
agricultural science and technology. During the first six years 1969-74, AGRIS was in a formative stage. The first result of this cooperative effort was the publication of the first experimental issue of the new information tool AGRINDEX in August 1973. However, it was in January 1975 the AGRIS became fully operational when its first visible products, AGRINDEX and the AGRIS output Tape, became available. As the number of the input contributing countries grew, the size of AGRINDEX also increased.

**Scope and Functions of AGRIS**

The subject scope of AGRIS coincides with the scope of FAO and is classed in the following main subject group:

1. General agriculture.
2. Geography and history.
3. Education, extension and information.
4. Administration and legislation.
5. Agricultural economics, development and rural sociology.
6. Plant science and production.
7. Plant protection.
8. Post-harvest technology.
10. Animal science, production and protection.
11. Fisheries and aquaculture.
12. Agricultural machinery and engineering.
13. Natural resources and environment.
15. Human nutrition.
16. Pollution.
17. Methodology.

The documents are selected for AGRIS on the basis of subject scope and type of document. AGRIS endeavors to create a single comprehensive, current inventory of world-wide agricultural literature which reflects research results, food production and rural development also to help users to identify problems involved in all aspects of world food supply; to meet information needs by means of SDI. Service and specialized subject retrieval services, and provide means of fulfilling requests for documents, and to interact with new and/or existing secondary specialized information services so as to increase efficiency and eliminate unnecessary duplication of research.

Organizations of AGRIS

At the close of the year 1986, 122 countries were participating in AGRIS of which 117 were contributing inputs to AGRIS. In addition to this 14 multinational centre and FAO's own documentation centre which cover whole UN family as well as ISO and other international organization are also contributing inputs, AGRIS has become an integral part of agricultural information landscape. It has become so not only because of increasing recognition by governments and
other organizations and institutions of the important scientific and technical information to agriculture. AGRIS is, in its role as a bibliographic title service, the closest existing approximation of a comprehensive system. The USA is the largest single contributor contributes 11.4 percent, Japan 8.1 percent, France 7.8 percent, U.K. 6.9 percent, Italy 4.5 percent, India 3.0 percent, Netherlands 2.8 percent, Australia and USSR 2.4 percent each, and Thailand 2.8 percent. In keeping with the philosophy that AGRIS represents a true partnership of developing and developed countries. The true utility of the AGRIS database can only be fully realized when it is searched interactively by computer. This system may be on-line or batch processed and is capable to provide SDI service or retrospective searches.

**Computerized SDI Services of AGRIS**

AGRIS output tape with the help of a computer can be used for fast retrieval of information of the desired literature. The queries are formulated by selecting words in the title (called free text search) or by alpha-numerical three digit subject codes or four-digit numerical commodities codes from the AGRIS categorization scheme or by selecting keywords from the multilingual Thesaurus of Agricultural Terminology - AGROVOC-only from 1985 onwards to match their subject interest.
By giving these codes, the computer promptly identifies the desired references from the database. These references are displayed on the VDU screen and a print out can be taken from the line pointer. Computer searches can also be made on way of the data elements from AGRIS database such as authors, affiliation, title, country of publication, year of publication, published in a particular journal, etc.

**AGRIS on-line Services** - The AGRIS database is accessible on-line to users in countries and organization participating in AGRIS on the following host computer:

- **IAEA** (International Atomic Energy Agency, Vienna, Austria) via direct dial and the public packet switching network.
- **DIMDI** (Deutsches Institute for Medizinische Dokumentatin and Information, Cologne, Federal Republic of Germany).
- **DIALOG** (Containing only non-US portion of AGRIS, in USA).

The basic components of the service are on-line retrieval from the available AGRIS/STAIRS database, SDI service, mailing of the printed results of retrospective searches and SDI. The AGRIS database at IAEA is maintained by the AGRIS processing unit, Vienna, Austria. The AGRIS database is available on DIALOG since November 1985. In order not to duplicate too large portion with AGRICOLA database of NAL (USA) only the non-US portion of AGRIS is available, DIALOG cells this subset AGRIS INTERNATIONAL. The user must search AGRICOLA and AGRIS INTERNATIONAL in order to receive complete results. The retrieval strategies should
preferably be based on free-text title and abstract words since the indexing is AGRICOLA and AGRIS. The AGRIS database available via ESA (European Space Agency, Frascati, Italy) is the one at IAEA, but with access as file 29 through ESA, Retrieval language is STAIRS.

India's Participation in AGRIS

The Indian council of Agricultural Research (ICAR) has established a agricultural research information centre by creating the Research Information Unit at its headquarters in 1967 to provide a central source of information on the nature, location and status of current research project conducted in the country. About 7,000 research project have been listed involving nearly 30,000 research workers at the 42 ICAR research institutes/laboratories, 26 agricultural universities including their research station and large number of all-India coordinated research projects, project directorates and national research centres. As a result of initiation of various international information systems by the United Nations and other international agencies, a decision was taken by the Ministry of Agriculture, Government of India in July 1974 to participate in the AGRIS at the national level through a national input centre under the ICAR. At present some 100 Indian periodicals have been covered besides the non-conventional types of literature like the annual reports, books and
monographs, technical bulletins, proceedings of various conferences in the field of agricultural science including animal husbandry, fisheries and forestry.

**India's Input to AGRIS** — The ARIC sent about 30,000 items during the initial ten years period (1975-1784) to the AGRIS database at Vienna against total of 11,11,722 inputs. The major portion of Indian input is in English. About 100 core periodicals have been identified and indexing and abstracting is done according to the standard procedure adopted by all the countries of world to bring a compatibility in the system.

**National Bibliography of Agriculture**

Indian National Agricultural Bibliography in four volumes derived from AGRIS databases has been brought out by the Agricultural Research Information Centre. This bibliography covers a period of ten years (1975 to 1984) and contains 30,000 references of Indian origin based on the inputs provided by the centre.

**2.2 BIOSIS**

The Bio-Sciences Information Services, publisher of Biological Abstracts and related items, offers BA Previews on computer tapes, covering 2,40,000 reports each year; the cost of these tapes is $5,000 per year. BA also offers individual retrospective searches through this file at a charge of $150.00.
BIOSIS has been monitoring the worldwide life science literature for 70 years. In the initial years, a worldwide network of more than 3,000 collaborating biologists volunteered to prepare abstracts from a vast number of serials to produce BIOSIS, first bibliographic reference tool, Biological abstracts, which began publication in 1926. In 1996, BIOSIS staff of editors, trained in the life sciences, will select and index nearly 6,70,000 items from over 10,200 international sources including journals, books, meeting literature and U.S. patents - to ensure that our products remain consistent and complete sources of reference to interdisciplinary life science literature worldwide.

2.3 CHEMICAL ABSTRACTS SERVICE (CAS)

Chemical Abstract is the most complete guide to the chemical literature of the world, referencing more than 15 million documents since it was first published in 1907 by the American Chemical Society U.S.A. This completeness means you can search CA with confidence, knowing that you won’t miss essential chemical information. The answer to almost any question pertaining to chemistry can be found through CA. CA contains English-language abstracts and indexes to the vast literature of chemistry and chemical engineering. By defining chemistry broadly CA also covers aspects of many other related scientific disciplines such as biology, clinical medicine, physics, geology, engineering and more.
Each weekly issue of CA contain tow parts (i) abstracts and (ii) issue indexes. The abstracts are classified according to chemical subject based on a hidden scheme of classification and are arranged in 80 subject groups or sections. The listing of the particular section dealt with each issue is found on the first page. The sections are collected in the five broad growing labeled.

(i) Biochemistry (Sections 1-20).
(ii) Organic Chemistry (21-31).
(iii) Macromolecular chemistry (35-46).
(iv) Applied chemistry and chemical engineering (47-64).
(v) Physical Inorganic an Analytical Chemistry (65-80).

Section 1 through 34 are published one week; section 35 through 80 the following week. The arrangement of abstracts with in any section places journal articles and proceeding abstracts first, new-book announcements second, and Patent abstracts, third. Out of 80 CA sections most of them are available in computer readable.

There are two ways you can search CA (Chemical Abstracts).

(i) Consult the weekly issues for current awarness searching or
(ii) Consult the volume or collective Indexes for retrospective searching.
CA WEEKLY ISSUES

Each week, CA carries approximately 10,000 abstracts of the newest findings in chemistry and chemical engineering reported in scientific and technical literature, world wide.

Sections 1 through 34 are published one week; section 35 through 80 the following week cross references for abstracts are provided at the end of each section. These cross references indicate abstracts whose diverse subject content might have permitted placement in any one of several sections. Volumes indexes include
1. General Subject Index.
2. Chemical Substance Index.
3. Formula Index.
4. Index of ring system.
5. Author Index.

Finding the Original Document:
i) CASSI - CAS provides two services that can help you locate original documents of interest. One is the chemical Abstracts Service Source Index (CASSI), a reference publications abstracted in CA. The libraries are designated by codes that can be looking to find their names and addresses. CASSI is supplemented quarterly and reissued every five year.

ii) CAS DDS - You can also request a document directly from CAS through the CAS Document Delivery Service and
receive photo copies or loans of most documents cited in CA sicne 1978. CAS adhers all copyright lows. Order forms for the service can obtained from the CAS Document Delivery Service, P.O.Box 3012, Columbs, Ohio, 43210-0012, USA.

Conclusion

CAS is the world leader in providing chemical information chemical abstracts are information brief summaries of the major disclosures reported in the original documents. They are neither critical nor evaluative reviews. They are not meant to serve as laboratory manuals or chemical data handbooks. Their primary purpose is to give accurate, quick and sufficient information on the chemical content of the doucment to the reader.

2.4 INIS

The acronym INIS stands for International Nuclear Information System which was planned by the International Atomic Energy Agency (IAEA), Vienna in colloboration with the member states and co-operating international organization. The main objectives of INIS is to provide a comprehensive nuclear information announcement and abstracting service, using modern computers and micrographic techniques, INIS started function in April 1970. INIS Atomindex was published in May 1970. Established since then it has gained rich and useful operational experience by now. The service has improved considrably and has set an example
for other international information system to follow.

The salient features of INIS are summarized below:

(i) It is an international co-operative venture.
(ii) It works with maximum decentralization and minimum centralization.
(iii) It ensures effective communication with its participants.
(iv) It has formulated standards and rules in the field of information science.
(v) It is computer based information retrieval system.
(vi) It is a document retrieval system.
(vii) It is an abstracting and indexing service.
(viii) It is an abstracting and indexing service.
(ix) It ensures high quality of input.
(x) It is a dynamic and flexible system.
(xi) It uses modern techniques in the field of information processing.
(xii) It offers machine-readable information service.
(xiii) It is a mission-oriented system.
(xiv) It achieves compatibility and co-operation of national information system in science and technology.
(xv) It is an ideal IR system.

INIS is an international system for the storage and retrieval of bibliographic information and documents in the
field of nuclear science and technology were sixty seven member states of the IAEA and 14 international organizations such as ISO, FAO, UNESCO etc. take active part. The combined input exceeds 75000 published items a year. The total number of items in the INIS bibliographic file from 1975 to date is also maintained as database to permit on-line searching and retrieval of document references. INIS Atomindex is the world’s announcement and abstract journal for the literature in nuclear science and technology, some thirty five countries receive regularly magnetic tape copies of INIS Atomindex for use in their national information dissemination efforts.

Decentralization - The decentralization is one of the unique features of INIS. The vast amount of literature published even in a very narrow specific subject field, made it almost impossible to control the world’s output in the field by any one organization alone. INIS has approached pragmatically the problem of controlling the world’s literature in the field of nuclear science & technology. Some 90,000 to 100,000 documents annually, by decentralizing the input preparation and the output utilization.

Centralized Processing - The input so received is checked corrected and transferred to machine readable form at the INIS headquarters. The centre input received is merged and the output in machine-readable form is printed as INIS
Atomindex and is sent to the member states for further utility and dissemination.

**INIS Output Utilization**

The INIS output utilization is also decentralized. The INIS Automindex on magnetic tape is distributed to Member States and "How to use the tapes for local information needs?" is left to the Member States. However, the INIS provides guidance, computer programmes and software package for utilization such as current literature search, retrospective search, query formulation technique, etc.

**INIS is an Indexing and Abstracting Service**

Every piece of literature reported to INIS is supplied with its bibliographic description and a set of descriptors to indicate its subject content. The output as INIS Atomindex and INIS output tapes contain the index terms. Since July 1975, INIS Atomindex Vol.6, No.17, the abstracts are also included in the printed INIS Atomindex and in INIS output tapes considering INIS as an indexing and abstracting service in the field of nuclear science and technology, the well-known Nuclear Abstracts was discontinued in 1876.

**INIS Offers Machine-readable Information Service**

The INIS distributes monthly the INIS output tapes containing the merged input received from its inputting centres. The tapes, therefore, contain the world's output
in the field of nuclear science and technology for the period. The tapes are used by the Member States for information retrieval, current awareness service, SDI service, the retrospective searches, etc. The INIS also supplies its authority files such as INIS. Thesaurus, corporate author file, periodical abbreviation authority file, etc. on tape.

**INIS Operations in India** - India is one of the first countries to join INIS has been whole-heartedly participating in it in conformity with her policy of supporting any venture aimed at fostering international co-operation and understanding, and the peaceful uses of atomic energy for the welfare of mankind.

**Responsibilities** - The library and Information Services (L & IS) of the Bhabha Atomic Research Centre, Bombay, is the national centre, responsible for all INIS activities in the country. Its main objectives are :-

1. To scan, identify and collect nuclear science literature produced in the country.
2. To select, categorize, index, abstract and report the bibliographic description of items falling within the subject scope of INIS.
3. To develop computer specialization for preparing input on citilization of output from machine readable media.
India's Input to INIS

The L & IS, BARC started sending Indian input to INIS on worksheets. On acquiring a Friden Flexowriter in June 1972, the input was prepared on paper tape, and presently the input is prepared in optical Character Recognition (OCR) mode using an IBM Selectric Typewriter. The national inputting centre endeavours to scan, identify, collect and input as much of the nuclear literature published in the country as possible while the nuclear literature in English is well covered, that in Indian languages is not. However, nuclear literature in Indian languages is not yet significant. Most of the Indian nuclear literature originates from the Bhabha Atomic Research Centre and other constituent units of the Department of Atomic Energy, Government of India, and, therefore, it is possible for the L & IS to capture all of these publications. The L & IS is responsible for scanning, selecting and inputting in the standard from bibliographic details, along with the abstracts and descriptors of all documents published in India in the field of nuclear science and technology. India’s input to INIS over a thirteen year period is shown in the following table. The INIS output tapes are received by the L & IS regularly by air mail and SDI service and literature search service are provided using output tapes.
INDIA'S INPUT TO INIS

<table>
<thead>
<tr>
<th>Year</th>
<th>Indian Input</th>
<th>World Input</th>
<th>Cumulative Indian Input</th>
<th>Cumulative World Input</th>
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<td>4,053</td>
<td>151</td>
<td>4,503</td>
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<td>1971</td>
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<td>386</td>
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<td>1972</td>
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</tr>
</tbody>
</table>

2.5 INSPEC

Acronym INSPEC stands for International Information Services in Physics, Electro-technology Computers and control. It is an information system operated by the Institution of Electrical Engineers (IEE) UK and American Institute of Physics USA (AJP).

Inspec is providing English language abstracting and indexing service providing abstracts and information from
the world's published literature on all aspects of Physics, Electronics and Computing.

Sources of INSPEC Inspect scans all papers published in approximately 4,200 technical journals and over 1000 conference proceedings books and reports in its subject areas to add some 263,000 records to the database each year. How is it presented? Inspect Services are provided in printed form of a computer searchable databanks and also providing different forms of services are produced to meet the wide ranging demand of the scientific and engineering professions.

Coverage of the Inspect database is centered on 4 main subject areas.
1. Physics
2. Electrical Engineering & Electronics
3. Computer and computing and control technology.
4. Information Technology.

The Physics section covers mechanics, heat, optics, acoustics, magnetism, electricity and also the physics of solids, liquids, gas molecules, atoms etc. It covers applied physics including instrumentation, lasers, nuclear power, semiconductors and super conductors. In addition, significant coverage of astronomy, astrophysics, biophysics energy research, geophysics is achieved.
The **electrical engineering and electronics** section covers electronic components and technology, telecommunication, power engineering and instrumentation. This includes such subjects as aerospace electromics, electric machines electron tape, electron instrumentation potical and opto electronic devices etc.

**Computer and computing and control technology**

Section covers artificial intelligence, computer theory, software of the ubiquitous application of computing are extensively covered. 'Hardware' includse computer themselves and their elements storage peripheral equipment and networking 'software' covers application progress, software engineering, system and techniques. Extensive coverage is given to the adverse application of control technology.

Information Technology section draws material of interest to the managers as well the technologists. There is an important office automation section which covers such topics as electronic mail fascimile, teleconferencing, viewdata, computer terminals, communication and word processing. INSPEC offers 2 types of services namely a) printed service b) computer searchable services.

**Printed Services**

1. Abstract Journals
2. Key abstract
3. Current paper
4. Topics
5. SDI

**Computer searchable services**

1. INSPEC online
2. Tape services
3. Direct searching of INSPEC

**Printed Services**

a. Abstract journals

Inspec publisher 3 abstract journals physics abstract

Electrical and Electronics abstract computer and control

Abstract.

1. **Physics abstract** The world’s major guide of recently published research in all areas of physics including particle, nuclear, atomic, molecular fluid plasma, solid state, biophysics and instrumentation.

2. **Electrical and Electronics abstract** Brings together summarised information of recent technical development worldwide in all areas of electronics, radio, telecommunication and electrical power.

3. **Computer and control Abstract** Offers a comprehensive information service on all aspects of computer installation hardware, peripherals, system theory and artificial intelligence.

**Key Abstracts** A services of 20 journals high lighting the key abstracts from periodicals and conference proceedings in
subject areas special relevance to the technology of the 1990's. Each monthly issue of key anstract presents the reader with manageable selection of approximately 250 summaries in an easy to read format, together with a subject index. There are 20 titles in the key abstract image which can be conveniently divided in 4 major groupings.

Electronics and power
Computing and control
Materials and Measurement
Current papers

3 current awareness journals designed to alert scientists and Engineering to information computer and computing electronics and electrical Engineering and Physics.

Topics
Topics are designed as a lowcost current awareness service to assist engineers and scientists in dealing with the ever increasing flaw of published information. The specially selected subject form dynamic areas of the database are intended to be of particular interest to a large number of people.

SDI
For these customers with a specific of narrower interest area than that offered by topics Inspec SDI's provide an identicl service format but the profile is personalised. II. Computer Searchable Services
**Inspec online** It is fast, current, cost effective, official, convenient, easy to use and competitive. Each record with the Inspec database contains an English Language title and descriptive abstract, together with full bibliographic details which include the journal title, author's name original document.

**Tape Services** Many organisation run their own computer based information services using database produced inhouse or purchased from external sources. Their managerial, scientific, technical and other professional staff search these database using computer terminals or receive regular printed update on subjects of particular interest.

Inspec Tape Service provide such organisation with convenient access to the world's published information in the Inspec subject areas. The Inspec database tape services contain titles, authors full bibliographic reference, abstracts classification, indexing cross reference to the appearance of items in the abstract journals.

**Support Services** Full documentation on the tape format and the contents of the database is provided. Customer support includes advice on available software, implementation of the system and optimum strategies for searching a file.

Each year subscribers receive a tape containing the list of journals, cumulative indexes simplify and speedup the searching.
**Microfilm** Inspec abstract journal and cumulative index are available in the form of microfilm.

Black volumes Replacement of missing and damaged issue of Inspec abstract journal is possible through the purchase of individual back issues.

### 2.6 INDIAN SCIENCE ABSTRACTS

It is a semimonthly abstracting service reporting scientific work done in India and abroad. Normally author abstract are cited. Subject Headings are from the UDC. ISA has been published since 1965 with computerised author index since Jan. 1966 and computerised keyword index since July 1966. Since 1990 ISA is totally computer produced, using bibliographic information storage and retrieval and desktop publishing. Software package in addition to hardcopy production, the ISA database will be available through online for public access from Oct. 1992. The online search can be done by using various search options viz, author, journals name, keyword, UDC member, addressing of the author/contributro.

**Arrangement** - Each issue of ISA contains about 1,200 to 1,500 entries. Entries are classified broadly under a UDC classification scheme and arranged in ascending order of UDC number by type of information material, by author and by source in ascending alphabetical sequence. ISA scans and analyses about 1000 S & T periodicals of R & D nature and add about 3000 records per annum by bringing about 24 issues
per year. Each issue of ISA contains a list of journals covered in that issue a contents list for that issue an author index and a keyword cumulative annual index of author.

**SCOPE** - Broad disciplines covered in ISA are mathematical sciences, physical sciences, chemical sciences, geological sciences, paleontological, Anthropological and biological sciences, medical sciences, agricultural sciences, engineering, management, organization of industry and commerce manufacturing, computers, communication, building industry, Architecture, photography, geography, Home science etc. In fact all branches of science and applied sciences are covered.

### 2.7 MEDLARS

MEDLARS stands for Medical Literature Analysis and Retrieval System. Due to the explosion of the Medical literature in the world there was a need to start an international retrieval system to control the medical literature. For their reason this international information system has been developed by the United States National Library of Medicine (NLM) since January 1964.

**MEANING**

It is a first large-scale computerised system for storage and retrieval of Bio-medical references.
OBJECTIVES

This service was initiated with following objectives?

1. To improve quality of Index Medicus (IM), a monthly index of bibliographic references published by NLM by increasing the coverage and depth of indexing while at the same time reducing the time required for its preparation.

2. The produce compilations similar to IM but devoted to specialized subject fields.

3. To allow quick searching of the large computer store of reference in response to individual requests.

a) IM covers on an average over 2,50,000 articles annually from about 3,000 leading Biomedical journals. The process of analysing the world's literature is carried out by a ream of indexers.

b) In order to serve the second objective, the library produces a large number of bibliographies, catalogues and indexes. In specialized subjects such as dentistry, medical education, nursing, rheumatology and endocrinology are prepared by MEDLARS, NLM current catalogue is also prepared by MEDLARS.

c) In order to meet the third objective from 1961 to 1971, 70,000 searches were carried in the United States. The major problem faced in search was concerned response time. It took 2 to 3 weeks to prepare the bibliography and release to the user. Therefore, from 1967 onwards
efforts began to be made to find out methods, whereby response time could be reduced to reasonable level.

In 1971, NIM initiated a new service called MEDLARS which is a world wide on-line bibliographic retrieval system intended to provide general service to users in the field of bio-medical literature. MEDLINE contains over half a million reference from 3,000 medical periodicals literature being accessible by means of terminals located at about 9,000 medical libraries in USA and in several other countries. The system is accessible via telecommunication network.

Over 5,00,000 searches are carried out per year on MEDLINE. The searches get full bibliographic reference along with a set of that the full list of subject headings applied by the indexer are displayed.

3. COVERAGE

MEDLARS COVERS ABOUT 3,000 serials. The literature from monographs is also covered. The study made by Lancaster showed that the coverage of significant literature appeared to be at about 95% level and to improve on this would necessitate an enormous increase in the number of journals scanned which is definitely not economically worthwhile.

A satisfactory coverage has been assured since the MEDLARS centres have been set up in a number of countries
outside USA. As a part of co-operative effort. Other countries supply input for MEDLARS in exchange of magnetic tapes containing the Machine Readable Files. However, in some developing countries and communist countries MEDLARS do not have any centre. So, the literature, from these countries has not been covered.

True to its objective, MEDLARS covers clinical literature. The public health aspects and multi-disciplinary field like environmental pollution do not find satisfactory coverage. For this reasons, MEDLARS centre at the headquarters of WHO was closed down in 1971.

4. **THESAURUS**

The thesaurus which is used both in IM and Medlars is called by the name Medical Subject Heading (MESH) and is published as part II of IM in January each year. MESH consists of 7000 terme. It consists of fairly conventional pre-coordinate type subject headings in 13 broad subjects. A hierachial classification of these terms is also available to indexers and search analysts. Subheadings were introduced in 1966 into this system.

Initially there were some drawbacks in this system in thesaurus.

1. MeSH which lacked an adequate entry vocabulary has been revised, edited and issued on a loss-leaf format as the Integrated Authority File (IAF) containing both definitions and indexing directions.
2. In MeSH vocabulary, there is no space for the inclusion of new headings. For example, the paper of "Australian Antigen" was quoted science citation index in 1965 soon after it appeared. The material on "Australian Antigen" could only be included in IM after 1973 when this heading was incorporated in Mesh.

The permuted Medical Subject Headings published by Medlars from time to time is useful for indexers and search analysts.

Medlars searching is a fairly expensive operation using about 21/2 hours of computer time for each batch of twenty to thirty questions processed in parallel, it seems to have positive advantage compared to hand searching, which arises from its power of selection and its more informative display.

The entrie MEDLARS project was divided into three phases:

*Phase I* ran for six months, and covered detailed exploration of the parameters of the system, refinement of notions as to capabilities required and their underlying machine analogs, and preliminary design of the system, with an outline of the machine configuration required.

*Phase II*, followed immediately and beginning in February 1962, covered the detailed design of the system, including stabilization of system concepts, detailed programming of
the computer operations, and the writing of specification for special equipment and initiation of its procurement. The final phase, **Phase III**, began in February 1963, which covered implementation of the system. The computer which is the heart of the system was delivered to the Library in March 1963".

**MEDLARS II**

Certain problems arose in the operation of MEDLARS which NLM could not solve without major design changes being made, in 1968, it had been observed that MEDLARS showed no evidence of breaking down as the volume of literature entered into the database continued to increase. Besides this, the general problems of overload on the system prompted the decision not only to continue MEDLARS beyond its projected file, but to initiate plans for expanding and upgrading it.

"The MEDLARS II was developed during August 1967 to June 1971. Improvement upon the MEDLARS I seemed to be the main reason for planning a MEDLARS II, objectives became blurred and divergent as the project went along. The complexities of creating a central computerized database of health sciences bibliographic information and library functional activities for nationwide use were underappreciated and remain a challenge to NLM".
MEDLARS III

"In 1979 the NIIM began its MEDLARS III development as part of the Library's continuing effort to improve the access, transfer and use of information contained in the world's biomedical literature. It was the major automation improvement programme. A great deal of work had gone into planning for the transition from the existing MEDLARS II system to MEDLARS III. As a result of the preparation for MEDLARS III a number of new products and improved services of benefit to the medical library community are available now, well in advance of the benefit to be gained from MEDLARS III".

MEDLARS III has facilitated new services and products such as retrospective conversion products, serials location, automated document requesting and request routing, online indexing, and direct patron use of MEDLINE.

MEDLARS ONLINE (MEDLINE)

"The introduction of online technology in the 60s changed the situation radically. A prototype system, known as AIMTWX was successfully tested in 1970. It allowed remote searching of a limited database, the references from the Abridged Index Medicus (or AIM), via the Teletypewriter Exchange network (TWX). Finally, in October 1971, the library introduced MEDLINE, or MEDLARS On-line".

MEDLINE was enthusiastically received by the
biomedical community. I rom a network comprising a handful of libraries "it has grown today to some 6000 institutions and individuals in the United States and many more in other countries. I rom being search a database of several hundred thousand references, today's user can query more than 8 million references from 20 NI,M database. During the year 1986, the number of searches on the library's computers was more than 3.5 million. Besides million, more searches were done through commerical vendors who lease the library's database".

The MEDLINE database is a largest and best known database of NLM. "With its backfiles it contains over five million indexed citations from the biomedical literature from 1966 to the present. Some 25,000 citations from 3,742 journals are added each month. Of these, 2,164 (58%) are from outside the U.S. Most of the citations in MEDLINE are available in printed form in the Index Medicus, a monthly publication which is cumulated annually. MEDLINE contains some dental and nursing citations which are not printed in the Index Medicus. During the next twelve months. NLM will be examining the scope and coverage of the Index Medicus and its electronic counterpart MEDLINE to determine what types of literature should be in each and the process by which new journal titles are reviewed for possible addition and the deselection of titles currently being indexed".

While Index Medicus is a wonderful bibliographic tool,
MEDLINE has an advantage because the electronic medium permits staff of provide features that the difficult to accommodate in printed publications. Errors made during indexing and input are corrected in MEDLINE. The NLM has just approved a policy for correcting errors that appear in publications. When an erratum notice is published, a note will be placed in the citation. Staff also annotate citation of articles that have been formally retracted.

The "see under" cross references in the Index Medicus are separately searchable in MEDLINE computer files. Health sciences users who have direct online access to the MEDLINE database consult the annotated version of the McSH (Medical Subject Headings Annotated Alphabetic Lists) better suited to their needs. This contains geographic headings "check tags", such as male, female and human and other data elements that are of value to the MEDLINE searcher, but have not relevance for the Index Medicus.

In addition to MEDLINE which is the general (but not exact) online equivalent of post 1965 Index Medicus, there are a number of specialized database mounted on the NLM computers and available over the Library's Network.

**TOXLINE**

TOXLINE (Toxicology information On-Line) is a collection of 380,000 references from the last five years on published human and animal toxicity studies, effects of environmental
chemicals and pollutants, and adverse drug reactions. Older material (200,000 references) is an TOXBACK. Almost all references in TOXLINE have abstracts or indexing terms and most chemical compounds mentioned in TOXLINE are further identified with Chemical Abstracts Service Registry Numbers. The references are from five major published secondary sources and three special literature collection maintained by other government agencies.

CHEMLINE

CHEMLINE (Chemical Dictionary On-Line) is a file of 385,000 names for chemical substances, presenting 200,000 unique compounds CHEMLINE created by NLM in collaboration with Chemical Abstracts Service (CAS), contains such information as CAS Registry Numbers, molecular formulae, preferred chemical nomenclature, and generic and trivial names. The file may be searched by any of these elements and also by nomenclature fragments, making chemical structure searches possible.

CATLINE

CATLINE (Catalog On-Line) contains about 175,000 references to books and serials catalogued at NLM since 1965, CATLINE gives medical libraries in the network immediate access to authoritative cataloguing information, thus reducing the need for these libraries to do their own original cataloguing Libraries also find this database a useful source of information for ordering books and journals.
SERLINE

SERLINE (Serials On-Line) contains the journal titles and names of publishers of all serial publications received by the NLM (About 18,000). For one-third of these, SERLINE has locator information that lets the user find out which titles are held by a particular library. SERLINE is used frequently by librarians, for example, in routing interlibrary loan request.

AVLINE

AVLINE (Audiovisuals On-Line) contains citations and abstracts of some 3,000 audiovisual teaching packages used in health sciences education at the college level and for the continuing education of practitioners. The number of references in AVLINE is expected eventually to reach 10,000. All audiovisuals in AVLINE have been reviewed for technical quality, currency, accuracy, and effectiveness. AVLINE may be searched by words in abstracts, medical subject headings, titles, names, and elements of physical description (such as medium, playing time, cost and source).

CANCERLIT

CANCERLIT (Cancer Literature) formerly called CANCERLINE, is sponsored by National Cancer Institute (NCI) of the National Institute of Health’s (NIH) and contains more than
85,000 references dealing with various aspects of cancer. All references have English abstracts. Over 3,000 U.S. and foreign journals, as well as selected monographs, meeting papers reports and dissertation are abstracted for inclusion in CNACERLIT.

**CANCERPROJ**

CANCERPROJ (Cancer Research Projects), sponsored by the NCI, contains 16,000 description of ongoing cancer research projects from the current and two preceding years. The descriptions are provided by cancer researches in many countries are collected for NCI by the Smithsonian Science Information Exchange. **CLINPROT**

CLINPROT (Clinical Cancer Protocols) is another NCI sponsored database. It contains summaries of clinical investigations of new anticancer agents and treatment technique.

**EPILEPSYLINE**

EPILEPSYLINE is sponsored by NIH's National Institute of Neurological and Communicative Disorders and Stroke. The file contains about 20,000 references and abstracts to articles on epilepsy that have been abstracted by Excepta Media.

Two subsidiary on-line files that support the bibliographic database are the Name Authority File (an authority list of about 100,000 personal names, corporate
names and decisions on how monographic series are called), and the MeSH Vocabulary File (information on 14,000 Medical Headings—main headings and qualifiers—used for indexing and retrieving references).

**AIDSLINE**

The NI M and NIH Office of AIDS Research recently announced the availability of "a new database containing some 13,000 references to scientific articles about AIDS. "AIDSLINE joins the family of MEDIARS database made available widely through online network. The references in AIDSLINE cover the clinical and research aspects of the disease, epidemiology and health policy issues. Many of the records include an abstract in English. The articles cover the period 1980 to the present and the database is updated twice each month with the additional of 200-300 records.

**SILVER PLATTER MEDILINE ON CD-ROM**

CD-ROM (Compact Disk-Read only Memory) technology was introduced in the later part of 1984. CD-ROMs are based on the increasingly successful laser Compact Disc hi-fi audio carrier. When used as a digital data storage device, one side of a single 4.72" diameter disc can hold up to 600 megabytes—the equivalent of more than CD-ROM produced by the NLM contains bibliographic citations and abstracts for biomedical literature. The current disc is updated quarterly and backfiles are updated annually with new MeSH
headings and other revision by NLM.

The database corresponds to three printed indexes: the Index Medicus, the Index to Dental Literature and the International Nursing Index.

The National Informatics Centre (NIC) has been set up by the Government of India to promote computerized Management Information System (MIS) for decision support in important sectors as health, agriculture, finance, industry and others. The NIC interfaces with user organizations in setting up MIS. In 1986, the Ministry of Health and Family Welfare, Government of India, has designed the NIC as the centre for MEDLARS operation in India. NIC and NLM have agreed to enter into bilateral agreement for MEDLARS operation in India for implementation for the project in two stages, as follows:

**Stage I** - NIC will directly be linked to NI,M database "Online" via international telecommunication network through a dial up connection and provide information in an "Offline" made to users in India.

**Stage II** - The data on tapes will be acquired by the NIC and the information made available within India interactively online.

The Memorandum of Understanding was signed between NLM and NIC for accessing MEDLINE and POPLINE databases directly "Online" in November 1987 and the first stage of project
implementation was initiated in December.

Modems compatible with the NLM system and to Bell Standards have been acquired, tested and communication links established. The MEDLINE access is in operation since April 250 searches have been performed.

**RECENT DEVELOPMENTS**

The use of optical disk technology for providing local access to MEDLINE, is being investigated by a number of organizations. If this becomes a reality local mounting and access to MEDLINE will become much more attractive since the maintenance and updating of the file could be done centrally and a new disk sent to the user monthly or quarterly. It is expected that this technology would be available for use in the next few years.

A simple personal computer-based search interface called GRATEFUL MED has been developed. This software assists the user by taking the words in the query and formulating the search using these words as textwords or MeSH terms, usually guaranteeing some relevant retrieval. The software then telephones the computer, logs on the system, performs the search and downloads the citations to the personal computer for review then or later by the user. GRATEFUL MED uses a Hayes "Smart Modem" or compatible modems with a North American telecommunications protocol. The NLM is examining the possibility of programming the software to work with modes using the CCITT protocol used in
INTERNATIONAL MEDLARS/MEDLINE COOPERATION

NI,M made a decision to undertake international requests for use of MEDLARS system involving the true cooperation with no transfer of funds. The first arrangement with the United Kingdom (U.K.) and Sweden were based on NLM providing magnetic tapes, technical documentation and training programmes, and the participating countries providing evaluation and technical feedback. "Using the MEDLARS tapes, the U.K. began providing services in 1966 and Sweden in 1967. During 1967-1969, discussion were held within the OCED (Organization for Economic Cooperation and Development) framework for further internalization of MEDLARS with an OCED consortium approach. Both the U.K. and Sweden Centres offered trial services and expressed a willingness to serve a regional area, if desired. The culmination of these years' deliberation was no agreement by OCED members on a regional consortium and renewed individual requests to NI,M for national centres.

In 1968, the U.S. had crystalized its informal working arrangements into quid pro quo bilateral arrangements with the U.K. and Sweden. These identified basic criteria were the model for future agreements. The proposals received from countries were evaluated in terms of:

(a) the foreign institution's personnel, technical and financial resources and capabilities:
(b) the intended use of MEDLARS to meet foreign biomedical information needs; and
(c) the input which the participating foreign institution could make to the MEDILARS database".

These criteria assisted other countries in determining their readiness and NLM in responding.

The quid pro quo bilateral agreement is sharing of time, talent and resources with no transfer of funds. The NLM provides MEDLARS tapes, MEDLARS documentation, additional technical data and documentation, and training for the participating country’s personnel. The participating country agrees to provide MEDLARS services to its biomedical community, a document support service, indexed input to the NLM’s MEDLARS system, and to pay for the personnel sent to the NLM for training in indexing and searching. Thus, the NLM receives unique intellectual input to the MEDLARS database (indexing of the medical literature of the country or region) and the participating countries have access to specialized MEDLARS services. The level of a participating country’s indexing input to MEDLARS is approximately the equivalent of 12-15,000 indexed articles annually. Agreements were reached with France, the Federal Republic of Germany (West Germany), Australia and the World Health Organization (WHO) in 1969, and Canada and Japan in 1970.
MEDLARS services are also available around the globe through formal arrangements with institutions in Australia, Canada, China, Colombia, Egypt, France Great Britain, Italy, Japan, Kuwait, Mexico, South Africa, Sweden, Switzerland, West Germany, and the Pan American Health Organization's Regional Medical Library in Sao Paulo, Brazil. Some of the foreign MEDLARS centres provide services on their own computers, some come online to NLM in Bethesda, and few do both. In all cases, the foreign centres provide indexed references to be added to the database in return for access to MEDLARS.

In Europe, the tape centres are in France, Germany, Sweden and Switzerland. The two online centres are in Italy and the U.K. The MEDLARS databases are also leased by companies or organizations such as the Bibliographic Retrieval Service (BRS), Dialog Information Services, Inc., Mead Data Central, and the Beth Israel Hospital in Boston which provides online access using Paperchase.

2.8 UNISIST

UNISIST is the Universal System for Information in Science & Technology. It intends to mean the part taken by United Nations in promoting world wide system of information in Science & Technology. UNISIST is described as a contemporary expression being used to designate a long standing tradition of free interchange of Science & Information among the scientists of the world. It is a
misnomer since it is not restricted exclusively to Sciences.

1. Scientific Information

Scientific Information is a cumulative resources, knowledge grows with the reporting of new findings. It is an international resource, the outcome of intellectual efforts of international scientists built up for international use of future scientists. It is a principal reserving of concepts and data to be drawn on for application to economic technical development programmes.

UNISIST is an inter-governmental general program in the UN system designed to provide a conceptual framework for the establishment of national, international scientific & technological information systems and services to facilitate access to world information resources and to create the necessary conditions for system inter-connection and compatibility.

As per UNISIST study report the broad principles associated UNISIST are :

1. the exchange of published or publishable scientific Information among scientists.
2. Hospitality to the diversity of disciplines and fields of Science & Technology and to the diversity of languages used for international exchange of scientific information.
3. Promotion of the interchange or the published or
publishable information whatever manual or machine for the use of Scientist & Engineer.

4. The cooperative development and the maintainance of technical standards in order to facilitate the interchange of scientific information & Data among systems.

5. Promotion of compatibility between and among information processing systems developed in different countries and in different areas of sciences.

6. Promotion of cooperative agreements between and among systems in different countries and in different areas of services for the purpose of sharing work load and providing needed services.

7. Assistance to countries seeking access to information services in sciences.

8. The development of trained manpower and resources of established information and data in all countries.

9. Increased participation of scientists in the development and use of information systems for evaluation and synthesis of scientific information & data.

10. The involvements of the coming generation of scientists in the planning of scientific information system of the future.

11. The reduction of administrative and a legal barriers to the flow of scientific information among centres.
Functions:

The UNISIST study report containing 22 recommendations outlined the two broad function of UNISIST.

1. The catalytic functions by UNISIST is to stimulate international cooperation agreements among autonomous information systems.

2. An initiating function by UNISIST will encourage the new projects designed to improve the world information tools and resources. The involvement of scientific community from the point of view of answering scientific requirements, the information science community from the technical point of view and the governments from the point of view of science policy—National & Informational is necessary for implementing the recommendations aimed at guiding the future development of UNISIST.

Objectives:

Five main objective of UNISIST are:

1. Improving tools of systems inter communication.
2. Improving information transfer.
3. Developing specialized information manpower.
4. Developing science information policy & national network.
5. Special assistance of developing countries.
The principal aim of UNISISTt is to establish necessary information structure at national & international levels for communication of scientific and other types of information efficiently from producer to consumer. UNISIST office in Paris is a centre of international activities.

UNISIST programmes attempts to achieve its goals in a number of different ways.

1. By providing funds for the developing of National and International programmes.
2. By providing consultants.
3. By organizing training courses.
4. By promoting conferences and other forums for discussion.
5. By production of various guidelines (thesaurus construction).

Achievements under UNISIST programme:

As recommended by the 17th session of general conference of UNESCO held in Oct./Nov. 1972, the UNISIST.

1. News letter: Started publication in 1973. Furnishes comprehensive information on all aspects of the development & related activities of UNISIST.
2. ISDS.
3. INFOTERM.
4. UNISIST.
5. Development of B.S.O.
The diversity of classification scheme used in the world created a need for the establishment of a broad classification scheme or B.S.O. in the frmaework of UNISIST for achieving compatibility between existing and future information systems. The draft schemes prepared by FID’s working group called Subject Reference Code have been discussed during meetings held in 1973-75.

6. Bibliographic data interchange:

In 1973 UNISIST working group on bibliographic interchange was created in the aim of developing recommendations to facilitate the interchange of bibliographical data in a compatible form among all types of users and procedures for all types of bibliographic material.

7. Guidelines for the establishment & development of monolingual and multilingual thesauri:

These guidelines are the results of joint efforts of UNESCO and ISO. Both these organizations are working in collaboration with one another to avoid duplication of work in view of the importance of thesauri as a tool in the information processing.

8. Effectiveness of information sciences

Birth of UNISIST

In conference held in 1964 at Czechoslovakia the scientists expressed the need for international system for facilitating Universal Communication of Information in
general and Scientific & Technical Information for the improvement of information storage and retrieval systems in various fields of science and technology under the supervision of a scientific committee. Similarly ICSU (International Council of Scientific Union) at its 11th general conference held in Bombay in Jan. 1966 adopted a proposal to create a system based upon achieving compatibility among existing and prospective programmes in respect of universal exchanges of scientific information. In view of the similarity of approaches, merger of two projects was found necessary for attaining more efficient result exerting a strong influence and avoiding dispersion of efforts.

The Director-General of UNESCO was authorised to undertake and complete jointly with the ICSU a feasibility study on the establishment of a world science information system. Thus come into existence what is known as UNISIST a general programme of the United Nations System.

Need for UNISIST:

1. Scientific information is an international resource, the outcome of the intellectual efforts of the international scientists built upon for universal use and applications to economic and technical development programs. There is, therefore, an urgent used for the international development of international resources of
2. Scientific literature is growing at a rate which makes it extremely difficult for scientists to cope up with the work of their colleagues.

3. Science in new form: Besides information explosion, the changing needs of the world scientific community necessitate the changes in organisation of science.

4. Efforts on information science: The existing information sciences have to be properly re-oriented to meet the requirements of the problem showing trends in scientific research.

5. Emergence of scientific & information systems: National information centres.

6. Lack of information infrastructure: Most of the developing countries lack even adequate infrastructures of libraries and information centres on which to build firstly a national system of scientific information to join the world science information system. Hence it is necessary for these countries to bring their infrastructures to basic levels of development, which can further receive reinforcement from the developed countries.

Thus services a world scientific information system i.e. UNISIST was felt to meet the needs of time. The designing of national information system resulted from the increasing interest of governments in science & technical
information and in view of the necessity to bridge the widening technological gap between developed and developing countries UNISIST was created.

**Organisation of UNISIST**

The organisation of UNISIST should be provided with three inter related bodies. They are (a) an inter-governmental conference for approving UNISIST’s programmes and reporting on their progress (b) an international scientific advisory committee, with a strong representation of ICSU and member unions as well as information experts and services, responsible for assessing progress in communication practices and changes in users requirements as a basis for and as a result of UNISIST programmes (c) an executive office serving as the permanent secretariat of UNISIST, responsible for preparing and administering programmes and budgets. The recommendation proposes that this last body be places in the administrative structure of UNESCO with science sector.

**Progress and Future Plans**

The Seventeenth session of General Conferences of UNESCO held in Oct./Nov. 1972 approved the publication of UNISIST. News Letter which aims at providing comprehensive information on all aspects of the development and implementatin of a worldwide programme of scientific and technical information (UNISIST) and related activities. The
Newsletter was started in 1973 and has already progressed through the first issue of volume 4 which was published in March 1976.

1. **UNISIST international Serial Data System (ISDS)**

To encourage international cooperation in Scientific and Technical information and in particular to establish and keep up-to-date register of serial publications, an international serials data systems (ISDS) has been established as part of UNISIST programme.

An International Centre (IC) for ISDS has been established in Paris in collaboration with the French Government.

The ISDC-IC will establish an international file of serials from all countries. This file will be limited initially to scientific and technical publications, and will be gradually extended to include all disciplines. Each serial will receive an International Standard Serial No. (ISSN) which has been developed by the International Organisation for Standards (ISO).

The International Centre of ISDS workign in close cooperation with National Centres where those exist is already assigning ISSN to serials which have commenced publication since Jan. 1971. For example, ISSN have already been included in the "Title Index for Bowker Serial Bibliography (New York, 1972)."
A technical advisory committee appointed to advise the Director of the ISDS international centre on technical aspects and problems of the system has already met a few times and given a number of suggestions in this connection.

Certain countries like UK and USSR have already set up ISDS National Centres/Research Centre and Several others are in the process of establishing such centres.

2. **UNISIST International Information Centre for Terminology (INFOTERM)**

The INFOTERM was established in 1971 in Vienna by a contact between Unesco and the Austrian Standard Institute. The centre plays a coordinating role in technological activities going all over the world and perform several important documentation and information functions in this regard. In 1975, this centre organised a "Symposium on International Cooperation in Terminology" which was a sponsored by Unesco in the framework of UNISIST programme. The purpose of this symposium was to provide a forum for the exchanges of information or terminological activities and to discuss measures to be taken for efficient coordinating and cooperation. A feasibility study is planned on the establishment of a world wide terminology network in cooperation with INFOTERM.

3. **UNISIST/ICSU**

A Reference Manual for Machine Readable Bibliographic Descriptions:
This manual serves as a specification manual for technical management and systems design staff in information centers, abstracting and indexing services and libraries to assist them in designing local systems in such a way that they can exchange files in either direction with other centers which have adopted the Reference Manual Format. The reader of the manual is expected to be familiar with the fundamentals of bibliographic data handling in mechanized and manual systems. The manual, however, does not represent a single monolithic standard; on the other hand, it provides various degrees of freedom in the application of the conventions which it observes.

According to a contract concluded between Unesco and the British Library, the UNISIST center for bibliographic descriptions has now been set up at the British Library, R, & D department in London. The center will be responsible for maintenance, updating, and distribution of this reference manual.

Conclusion

UNISIST can be rightly described as an epoch-making event in the history of manking. The emergence of this program speaks of not only the urgent need for cooperation in the communication of scientific and technical information but also of technological imagination and keen interest of the scientists, governments, etc. to take concrete steps to
achieve positive results in this direction. Already much work has been done to give a concrete shape to this programme.
CONCLUSION

Due to the exponential growth and scattering of knowledge at the world wide level it is impossible for a user of information to know from where he will get his required information. Even librarians at the local level are not able to carry in the information service to fulfill the needs of current researchers. Therefore, for to avoid this problems, different information systems and services were originated at the international, national and regional levels. Before planning an information service, the requirements of the users should be carefully ascertained and it should also be found out as to how the users gather their information. The information service which caters to the requirements of users will be useful and effective.

The role of information system is that of intermediary between the generators and the users of information. Ita foremost job is to heighten the awareness among the entire community of information producers and users. It should identify the relevant information, collect, analyse and record it. The need for creating information systems and services at different levels was sensed since 1960s. Such informations systems are observed as global (International) information systems, National information systems, Regional information systems, Sectoral information systems etc. Global information systems are AGRIS, INIS, MEDLARS, CAS,
BIOSIS, ISA has been organised in all developing countries. NISSAT programme envisages the National information system for Science & Technology in India.

AGRIS is a international information system in Agriculture and related subjects. Its emphasis is on a 'comprehensive inventory' and 'speed of reporting' of world literature on agriculture.

INIS is an international system for storage and retrieval of bibliographic information on documents in the fields of nuclear science and technology.

National Library of Medicine (NLM) pioneered the first large scale computer based system for biomedical reference storage and retrieval with the development and implementation of Medical Literature Analysis Retrieval system. MEDLARS is a multipurpose system, a prime being the production of index Medians.

BIOSIS, Bioscience information service of the Biological Abstracts is the main adopted in 1964 to identify the organisation that has published continuously for more than 40 years the world's leading abstracting journal in the biological sciences. It is an independent non-profit organisation.

NISSAT, the board objectives of National Information systems for science & Technology are to interlink and coordinate a large number of information sources systems and services into an effective information network.
Chemical Abstracts Service (CAS) is the world's largest abstracting service in chemistry and chemical Engineering. About 1,20,000 pages are published annually covering more than 2,50,000 abstracts. It is international in scope. It covers about 12,000 scientific periodicals in 56 languages, published from 106 countries and also patents published from 26 countries.

Indian Science Abstracts (ISA) The first comprehensive national abstracting service in India was the "Indian Science Abstracts". It provides more than 14,000 abstracts annually. Over 600 Indian and 2,00 foreign scientific periodicals are scanned. Entries are arranged according to Universal Decimal Classification scheme. But the classification is not in depth.
PART TWO

ANNOTATED BIBLIOGRAPHY

This article describes the development of current awareness services at Tilburg University. First a short description is given of the context of the development of the online contents service - a program embodying a more modern library concept. Next the relative merits of AISs are discussed from a user's point of view, providing considerations for developing a current awareness service for the library's journals collection. Then special emphasis is given to variety's topics the retrieval software used for the service. Finally, plans for the future are discussed.


Appropriate current awareness service is central if a business is to maintain its competitive advantage. The options for current awareness include internal and external services and range through SDI, bulletin, standard SDI, abstracting and indexing journals and other products. Major areas that have undergone developments are the increasing awareness of
the need for competitive intelligence, greater emphasis on the needs of the individual, a wider range of delivery formats, introduction of desktop publishing, and the changing role of the professional.


Information is knowledge of a particular fact, event or situation. The way information is received and used will change vastly during the 1990s. This article describes the various kinds of information that users of the information center will encounter or have been for, including general information, specific information, exceptional information control-decision information, allocation-decision information, and direction-decision information.

___, ___, SDI.


Differentiates between data and information and describes different types of information considers the problem of the excessive amount of information available and discusses the benefits of a current awareness service in contributing to the success of the
enterprise. Examines the concept of selective. Dissemination of information (SDI), which is the regular supply of specific types of information to the client, and discusses the question of implementation of a text retrieval database and costs.

SCIENCE, AGRICULTURE, AGRICOLA.


Refer’s to the National Agricultural Library(NAL), Washington, DC, as the world’s foremost agricultural library. Mentions the library’s holdings - the largest collection of agricultural sciences. Describes its collections, automated management, access to collection and AGRICOLA (Agricultural Online Access). Highlights the application of experts systems, hypermedia technology, image transmission and other projects and programmes. Since 1970, NAL has provided its bibliographic records for a computerized database called AGRICOLA, now available in three formats - magnetic tape, online and compact disk - read only memory (CD-ROM). Updated with 100,000 records a year, the database has grown to 2.6 million indexed citations to journal articles, monographs, theses, patents, software, audiovisual materials and technical reports held at NAL and other libraries.

Describes the status of Indian scientific institutions/Universities and their involvement in the developing areas of agricultural sciences. The analysis is based on the research output reported in various agricultural journals of institutions/Universities/learned Societies/associations, etc., as recorded in Indian Science abstracts, 1990.

7. **MCKEEN (Mike)**. The libraries of the Agricultural and Food research service. *Aslib Proceedings*. 43, 4; 1991, April; 153-60.

In the last decade the agricultural and food research service has been transformed as resources are concentrated in fewer large institutes. This paper presents the new dispositins with a brief commentary on their evolution. In all these upheavals the librarians of the AFRS (Agriculture and Food Research Council) have, through the AFRS librarians committee, endeavoured to build a common framework of cooperation and mutual support.
8. ALUX(W) and STAGE(Eberhard). AGRIS input from the federal republic of Germany: An example of cooperation between decentralised agricultural documentation centre. Quarterly Bulletin of the International Association of Agricultural Librarians and Documentists. 35, 2; 1990, February; 53-60.

The West German input to the AGRIS data base is produced in network cooperation between 22 specialised documentation centres. Presents the historical development of the cooperation, network management, technical collaboration and the data processing conditions of the network system. The well established collaboration between the specialised centres enables comprehensive speedy and thorough evaluation of citations from AGRIS.


Discusses that information services have a vital role to play in improving the availability of food in the world hardly needs any emphasis. However, these services must be fully integrated into some systematic set of activities that have the intention of
making information available to those who can make effective use of it. Towards this end, International agricultural research institutions can and should play a major role. The Consultative Group for International Agricultural Research (CGIAR), in its role as an international co-operation partner, should assist in the creation of a regional agency, the main function of which would be to coordinate all kinds of services pertaining to agricultural libraries, documentation and information services within the Sub-Saharan region of Africa, if not across the continent.

10. SHETTLESWORTH(C). TACTICS (Thai Agriculture college, transfer of information cooperative service). Quarterly Bulletin of the International Association of Agricultural Librarians and Documentationists. 35, 2; 1990, January; 69-72.

The work of the Thai Agricultural college transfer of information cooperative service (TACTICS) in servicing the libraries of 45 agricultural colleges is described. The major objective is to improve the teaching/learning process in both formal and non-formal sectors of the colleges work. To do this TACTICS provides an information service by identifying needs and linking to other institutions and to
national and international information services. A complementar service gathers local farm data, analyses it and presents it in the form of reference manuals with different designs according to the audience: farmers; extension workers; teachers; students.

BIOLOGY, AIDS, EXCLUSION PROBLEM,


Contribution to a thematic issue on AIDS: resources and sources. Indexing companies and database search services are contributing to the ignorance surrounding HIV and AIDS by offering doctors, patients, students, and researchers access to only a narrow range of 'mainstream' and 'professional' publications. Offers a critique of current indexing practices of AIDS related periodical literature and suggests strategies to remedy the situation.

BIOSIS, AGRICOLA, OPAC.

12. BARNES (S) and MCCUE (J). Linking library records to bibliographic databases: An analysis of common data elements in BIOSIS, Agricola, and the OPAC. Cataloging and Classification Quarterly. 13, 3; 1991, May; 157-88.
This paper discusses how the expanded catalog will play a crucial part in organizing information in electronic libraries, and in providing navigational assistance to library users. The analysis of issues that would make it possible for Agricola and BIOSIS users to see which of their retrieved citations are from sources available in the libraries of Cornell University is presented. The article presents study results, provides an overview of several linking systems, and identifies some of the difficulties caused by lack of standardization between different bibliographic database.

AGRICULTURAL COVERAGE.


BIOSIS is the world's largest abstracting and indexing service for biological and biomedical research. An independent nonprofit organization, BIOSIS was founded in 1926 and aims to make life science information available to the scientific community through its bibliographic databases and related services. This article focuses on the various electronic services and databases that BIOSIS provides which feature agricultural information.

Compares the 2 CD-ROM databses : compact cambridge’s life sciecnes collection (LSC) and BIOSIS’s Biological Abstracts concludes that LSC is a better database for novice or occasional searchers and for these who do not require comprehensive searches but do want non-periodical document types. Biological Abstracts has a broader periodicals coverage, has better indexing and may be better for graduate and faculty searches. Both are excellent prducts and neither one would be a bad choice for any library.

15. FREEDMAN (B). Growth and change in the world’s biological literature as reflected in BIOSIS publications. Publishing Research Quarterly, 11, 3; 1996, March; 61-79.

BIOSIS has abstracted and indexed the worldwide biological literature sicne 1926, publishing first Biological Abstracts, later also biological abstracts/reports, reviews, meetings and more recently th Zoological record. The increases and changes in the contents of these publications, when taken in
broad perspective, provide insights into the growth and patterns of life-sciences research worldwide in the past seventy years.


Introduces BIOSIS perviews to the librarian who searches in a setting where the primary information needs are related to patient care whether these question arise in a hospital, a pharmacy, a drug information centre or a poison control centre. BIOSIS perviews can provide very practical and timely information from sources which are not covered in other major databases such as MEDLINE. Sample searches will demonstrate the usefulness of BIOSIS perviews as a practical source of medical information.


Although the potential usefulness of BIOSIS perviews has been documented for behavioural researchers, the extent of its present use in
psychology-related research is not known. A national survey conducted to determine whether database searches access BIOSIS Perviews for topics in psychology revealed minimal use. This is attributed partly to the cost of accessing the database and to lack of awareness of its potential usefulness.

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18. RAJASHEKAR(TB). A minicomputer based S.D.I. and online search system from BIOSIS. Library and Information Science. 23, 4; 1988, December; 223-44.

Discusses the weekly update tapes issued by Biosciences Information Service (BIOSIS), U.S.A., is input to the system. The service consists of a batch S.D.I. and an online search facility, software for which has been implemented on a minicomputer system dedicated to information handling. The paper described the features of the microcomputer, input database, user base and the search system, particularly the online search facility. It also deals with the system implementation and performance aspects. The major objective of the National Centre for Science Information (N.C.S.I.) is to provide Current Awareness to the science faculty members in Indian Universities and other educational institutions. Life sciences, comprising Botany,
Zoology, Biochemistry and related areas like Bioengineering, Agriculture and environmental sciences etc., is one of the major science disciplines for which N.C.S.I. is offering S.D.I. services.

19. MAHESWARAPPA(BS). Biological literature in India from Indian Science abstract. ILA Bulletin. 29, 1-2; 1993, April; 47-55.

Studies the growth of biological science literature in India based on the data collected from the Indian Science abstract published during 1965-89. The relative growth rate of biological science literature has consistently declined while the mean relative growth rate has increased. The doubling time of literature has increased consistently from '88 year in 1966 to 11-56 years in 1989. The growth of biological science literature in India follows neither modified exponential, logistic nor the linear pattern.


The goal was to expand on the success of University of Michigan (UM)-MEDLINE, which allows
faculty, staff, and students free, unlimited searching in MEDLINE and other database via Paperchase. The current awareness service builds on the expertise of library staff in the delivery information services and the technical expertise of ITN's staff. Described are the origin of the project; site license negotiation, implementation of the project and problems associated with the project.

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Paper presented at the 2nd Excerpta Medica (EM) Seminar, 16 May 90. Excerpta medical is now available on CD-ROM. Before this product was released questions of format, retrospective data software, and product support has to be considered. After market research excerpta medica decided to concentrate its CD-ROM on specialist markets with full coverage of major journals, 10 years retrospective coverage and easy search software CD-ROM covering 6 different areas are now available. Others may be developed depending on demand.

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EMBASE is published by the secondary publishing division of Elsevier Science B.V., the Dutch-based publishing company that is now part of Reed Elsevier family from its origins, EMBASE has developed into a major biomedical database with particular emphasis on coverage of drugs and chemicals. It is available via major online vendors, selected academic networks and CD-ROM and is also sold to individual corporate customers.


The Paper was presented at the 2nd Excerpta Medica seminar. Excerpta Medica has aimed to improve its service by: increased ease of access for users with the new EMTREE use system speeding up acquisition and throughput of journals, increasing journal coverage, particularly of cover-to-cover abstracts. To facilitate access to original documents Elsevier is developing Current Awareness Service Individual Article Supply' CASIAS. Another new project is the ADONIS CD-ROM based information services which has been tested at the British library document supply centre. The project aims at automatic journal indexing to provide current awareness information simultaneous with a journal's publication.

A thesaurus may be viewed as a graph, and document retrieval algorithms can exploit this graph when both the documents and query are represented by the thesaurus terms. This paper shows that our algorithms were applied to the Excerpta Medica bibliographic citation database whose citations are indexed with terms from the EMTREE thesaurus. This also created an enriched EMTREE by systematically adding non-hierarchical relations from a medical knowledge base. Our algorithms used at one time EMTREE and, at another time, the enriched EMTREE in the course of ranking documents from Excerpta Medica against queries.


The paper reports the results of a quantitative study of NUCSSI (National Union Catalogue
of Scientific Serials in India) database. Analysis has been made on the coverage and distribution pattern of titles of medicine and related field listed in EM and IM all over the India. Each and every title is analysed for its coverage in libraries of medical institutes and libraries in different zones of the country. Non receipt titles were analyzed that 58% of total titles are available in India. North zone comprising six states covering 30 medical institutes has maximum collection of serials followed by West, South, East and North-east.

26. HUMPHREY (BL) and McCUTCHEON (DE), Growth patterns in the national library of medicine's serials collection and in Index Medicus journals. Bulletin of the Medical Library Association. 82, 1; 1994, January; 18-24.

Data from the national library of medicine automated master serials system and its MEDLINE data was used to chart the growth of NLM's periodicals collection and of the periodicals indexed in Index Medicus from 1966 to 1985. The period law, a substantial increase in the publication of biomedical periodical literature published in English, a substantial but uneven growth in the number of
periodical titles in the NLM collection, and in the average number of titles in Index Medicus periodicals.

27. FORTNEY (L). Index medicus price study. Serials Librarian. 23, 3; 1993, June; 137-42.

This article reviews the Index Medius price study provided by EBSCO subscription services. The author discusses how the information provided can be used to illustrate in detail the price of providing information to specific groups of library users. The author provides a background on how EBSCO's decision to undertake the project and on some of the parameters. Applications of the price study in the collection assessment and development processes of major medical center libraries are also reviewed.


Increases in health sciences journal subscription prices have been a topic of discussion for decades. While information on overall percentage increases of medical titles in general is easily obtained, librarians as well as many health care providers and faculty members must become more knowledgeable about inflationary trends within specific disciplines if we are to make informed
decisions regarding collection development and resource allocation. Gives the results of a subject analysis of titles in the health sciences undertaken recently by EBSCO subscription services.


There seems to be no solution to the continuing problem of health sciences journal subscription price increases. Librarians have responded by becoming more knowledgeable about inflationary trends within specific disciplines. This 2nd edition of the index Medicus price study from 1987-1991 and analyses these trends by subject category and country of publication.


The third edition of the Index Medicus Price Study examines biomedical journal publishing trends over a five year period and analyzes these trends by subject category and country of publication. The author provides librarians with information about inflationary trends within specific disciplines. The information will enable librarians to educate their constituents about the financial requirements necessary to support the various medical specialists.
90


Reports on a survey of British medical association library members who took part in a pilot test of a new MEDLINE service. The service consisted of the full MEDLINE database on hard disk and free dial-up access. Information gathered from the survey was instrumental in the development of the actual service. Planned future developments are summarized. An appendix contains the survey questionnaire.


Basic concepts of multimedia (MM) - it's historical development and components are described. The need, importance, advantages and disadvantages in information storage and retrieval with particular reference to biomedical information services are discussed. The hardware and software requirements for multimedia work station have been suggested. The existing multimedia product companies and the use of multimedia and its products in the field of
biomedicine for ex, cardiology, diabetis, hyperoncology pediatric neuro-surgery, etc. are highlighted. Some basic problems in it's implementation have also been discussed.

SUBJECT INDEXING, CITATION INDEXING.

33. SHAW(WM). Subject indexing and citation indexing : An evaluation and comparison Information Processing and Management. 26, 6; 1990, August; 705-18.

Citation representation are marginally superior to subject representations based on MEDLINE subject descriptions. The lowest performance levels are associated with exhaustive subject representations, which are biased against associating documents relevant to the same query. Results that include combinations of subject and citation outcomes produce meaningful improvements in retrieval performance when compared to the performance of constituent representations.

CHEMISTRY, CHEMIAL ABSTRATS, CD-ROM.


The 12th collective Index and Abstracts of Chemical Abstracts on CD-ROM covers the period 1987-91 and comprises 115 volumes of printed indexes compiled
on 4CD-ROM disks. Discusses differences between this product and those published by other database procedures: discs of indexes and abstracts an separated but logically linked; indexes are in separate files (Chemical Substance Index, formula index, Index of Ring Systems, general subject index, index guides Author index, patient index); and main indexes are searched by the browsing menu, which offers a similar environment to browsing printed Chemical Abstracts.


An analysis of a certain fraction of Chemical Abstracts Service (CAS) controlled vocabulary from the CS file shows a number of errors and inconsistencies. This leads to conclusions about the retrieval process, and more use of the basic index is recommended until the controlled vocabulary has been revised.

36. MARTIN (Sabine) and BERGERHOFF (Gunter). Chemical abstracts online: A study of the quality of

An analysis of a certain fraction of chemical abstracts service (CAS) controlled vocabulary from the CS file shows a number of errors and inconsistencies. This leads to conclusions about the reteieval process, and more use of the basic index is recommended until the controlled vocabulary has been revised.


Chemical abstracts service is explorign approaches for similarity searching on CAS registry substances. This paperdiscusses recent results of a comparison of the effectieness of the various STN screen classes in fragment based similarity searching using the Tanimoto coefficient and will illustrate the STN capabilites for connectivity - based similarity searching on an answer test.

Chemical Abstracts Service (CAS) registers isomers using text description related to the stereochemical descriptors of the corresponding chemical names. The system works well for the unique registration of stereoisomers, but it is difficult to relate the text descriptors to the atoms and bonds of the chemical registry system connection table. This limits its usefulness for substructure searching or display of stereochemistry in the structure diagram and, Therefore, CAS is currently augmenting registry connection table with atom/bond-specific stereodescriptors.

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The chemical abstracts service database (CAS) includes geoscience related information in the fields of cosmochemistry, economic geology, minerlogy, petrology, soils and water chemistry. This geoscience information is accessible in both the printed and on-line version of the chemical abstracts service database. Users of the database can search bibliographic data, controlled-vocabulary and free-text terms, and chemical substance information.
searching of the database is facilitated by several users aids that explain chemical abstracts service indexing and chemical-structuring policies.

40. NOVAK(T). Searching the chemical abstracts database: A comparison of Dialog, Data-star, and CAS online. Online. 10, 6; 1988, December; 353-64.

   Discusses the attempts to compare the search features of Dialog, Data-star and CAS online with respect to the chemical abstracts (CA) database. The main aspects of comparison are as follows: time span and splitting of the CA database; the most important search features; connect times and costs; and cross-data base search possibilities. Discusses the advantages and shortcomings of each system and the trade-offs of choosing the most suitable search service for searching Chemical Abstracts.


   Represents the results of a comparative study of abstracts appearing in Referativnii Zhurnal Khimiya (RZK) and chemical abstracts service (CAS). The basic intentions of the project were twofold. The first was
to provide data that could enable a quantitative judgement of the coverage of both abstract services by searching for information contained in one but not in the other. The second intended benefit of this study was to provide a comparison of the quality of the two abstracting services.

FREE-TEXT SEARCHING.

42. BECHTEL(Hanns). Problems connected with free-text searching in chemical abstracts service (CAS). Online. 9, 5; 1990, May; 37-42.

Non-existent syntactical links between search terms synonyms and abbreviations will increase the problems of free-text searching in large data bases. Searching by uncontrolled terms is time-consuming and in most cases not very effective. Discusses various examples, particularly with regard to the chemical abstracts data bases, and the pricing policy of chemical abstracts service.

FULLERENE NOMENCLATURE.

43. GOODSON(AL). Numbering and naming of fullerenes by chemical Abstracts service. Journal of Chemical Information and Computer Sciences. 35, 6; 1995, November-December; 969-78.

The development of fullerence nomenclature at chemical Abstracts service (CAS) is described. The
numbering and naming rules successfully describe fullerences of every point group symmetry indexes by CAS. Fullerence diagrams, with names and numbering are being added to the CAS database and are being made available through chemical abstracts indexes, the Ring Systems Handbook, STN and Scifinder.

--- ONLINE.  


Most of the major on-line systems used in libraries have kept connect-time pricing as the standard pricing scheme for over 15 years, but in the fall of 1987 the chemical Abstracts service (CAS) announced its intension of moving away from connect-time pricing. The new pricing scheme will be phased in gradually, the plan beign to reduce connect fees as other fees are increased. A different pricing alternative attractive to frequent searchers is flat fee pricing and CD-ROM with its unlimited searchign of a database for a single fee may be a catalyst of change in on-line pricing policies.

--- ONLINE.  

45. EBE(Tommy). The chemical Abstracts Service Chemical (Markush) Structure storage and retrieval capability.
The MARPAT file is a structure-searchable database containing Markush structures found in patents abstracted in chemical Abstracts. The file was introduced in 1987 on STN international. The MARPAT file offers on-line access via structure-based queries to the generic substance representations found in the chemical patent literature. A single query language is used to build structure queries that are searchable in any STN structure file.


Patent documents have always been recognised by chemical Abstracts service (CAS) as an important source of technical information. Abstracts of chemical engineering patents have been included in chemical Abstracts, when the first issue of CA was published. Today, there are over 2.2 million patent citation in CA. To improve access to this body of information in its online databases, CAS recently introduced new methods for searching protein and peptide sequences in the CAS REGISTRY file. Outlines benefits and details of these new information resources for searchers.

In this article, the author discusses the development of a new patent document service, chemical patents plus, launched by chemical abstracts service. This service provides easy, cost-effective access to U.S. patents on the world wide web. Chemical patent plus, part of the CAS document detective service, covers all U.S. patents issued by the U.S. patent and trademark office since 1974 and incorporates a specially indexed collection of U.S. chemical patents and three dimensional chemical structure images that can be graphically rotated from many CAS registry numbers. Chemical patents plus marketing and pricing information is given.

48. BUNROCK(RE). Gold is where you find it, or caveats on finding chemical substances using CASRN (Chemical Abstracts Service Registry Numbers). *Database*. 18, 3; 1995, June-July; 50-5.

Over the past thirty years, chemical abstracts registry numbers have been used increasingly
to define chemical compounds precisely. Originally designed for use in the chemical abstracts service database, CASRN are now used in a wide variety of database. The author searches on two chemical, diethyl ether and dimethyl ether, in order to gauge the consistency with which their CASRN have been assigned. Results indicate a lack of quality control and complications arising from varying chemical names.

New products such as SciFinder and chemical abstracts (CA) on CD-ROM, as well as improved relations with customers, mark a major change in direction for CAS, and many industry watchers attribute the revitalization to Massie’s leadership. This interview with Massie describes his background in law and business consulting and his previous tenure as president of Gale Research, the largest library reference publisher. The interview focuses on the developments of SciFinder and its complementary relationship with STN, efforts by CAS to keep costs down and prices competitive and CAS plans for future products and services.

The author gives an overview of SciFinder from chemical abstracts service. Manual searches in chemical abstracts were at first replaced by computer searching. However, the online systems were so complex and sophisticated that they deterred many from full searches. SciFinder functions as an integra overlay to the global CAS database by guiding the Scientist Intuitively through a search with simple point-and-click procedures without commands, menus or Boolean operators.

51. BECHTEL (Hanns), Searching metal alloys in CAS files. Online Review. 42, 6; 1991, May; 23-30

Chemical Abstracts Service has enhanced the searchability of metal alloys by generating the MAC field (Materials composition) and the RC field (Relative compositions). Discusses the new search algorithms with a view to the retrievability of alloys in the bibliographic file of Chemical Abstracts particularly the achieving of a uniform description of alloy compositions and of linking alloy terms to their contexts in keywords and abstracts.
This comparative study was carried out using a sample of UK patent applications claiming organic chemical structures. The main characteristics of the CAS and C2C systems and the scope of the study are described. Some typical individual results and summary of the complete results are provided. Brief comments on the equipment used and the problems of Markush structures and conclusions from the study are included. Overall it was found that the two systems provide important, and in some respect complementary, alternative routes for information retrieval in the area. Use of CAS substantially increases the number and range of documents to be cited at the preliminary examination stage.

CASSI. (Chemical abstracts service source index) contains titles of periodicals, reports and
other documents on chemistry and its fringed subjects with location references. At first these references covered mainly libraries in USA but since 1979 Hanover university libraries has sent details of all new periodicals, stocked on these subjects, so that now over 2/3 of the CASSI titles have a references to Hanover university in the on-line version, although fewer are listed in the printed version.

____, ____ , ____ , ____ , AUTOMATED COLLECTION, ASSESMENT.


After a major serials cancellation project in 1986 forced the chemistry library at the university of Texas to cancel 10% of its serial titles, a project was planned to assess its remaining serial titles. The project used the computer based chemical abstracts service source index as its basis. The chemistry serials collections of the university of Texas and university of California were compared. Preliminary collection overlap comparisons are made of the 3 collections.

Library Statistics are discussed in terms of their generation, collection, manipulation and use within the Chemical Abstracts Service library using computer based systems. Benefits of computing the monitoring process are discussed relative to the impact on managing the chemical Abstracts Service library production systems, as well as budgeting, planning and objective setting. Comparisons are made between batch and on line, real time statistical systems.

56. LECHNER(D) and SUSOVA(T). The use of the *Science Citation Index* by a University library. *Journal of library and Information Science*. 26,4; 1994, September; 156-8.

Discusses the development and changes of the acquisition policy of the library of the University of Bratislava which is characterised by a gradual transition from primary to secondary information sources and which culminated in the acquisition of the Science Citation Index, social sciences citation index
and arts and Humanities citation index in printed format. Explains the use of the indexes which can be searched by authors, keywords, journal titles and cited references and in any combination of these.

57. MAGRI(MH) and SOLARI(A). The Science Citation Index (SCI) Journal Citation reports: A potential tool for studying journals? *Scientometrics*, 35,1; 1996, January; 93-117.

In this paper, the authors analyze six indicators of the SCI Journal citation reports over a 19-year period; number of total citations, number of citations to the two previous years, number of source items, impact factor, immediacy index and cited half-life. These top level journals implicitly play the role of reference in evaluation processes. This often entices categorical judgements when the journals to be evaluated are not part of the top level. *Analysis* of the JCR, which present the JCR product differently, makes it possible to qualify these judgements and shed a new light on journals.

58. SYNGE(RLM). 25 years of Science Citation Index—Some experiences. *Journal of Chemical Information and Computer Sciences*. 30,1; 1990, February; 33-5.

Science Citation Index (SCI) depends for intellectual content entirely on citations by authors,
who are sometimes probed by editors and referees. Two contrasting citation families are described. SCI is beset by language-barrier problems to which chemical, Abstracts is immune. The science citation index management might extend its journal coverage, but otherwise improvement can be only come from a more serious attitude to placing references in primary publications. SCI remains a complement to, not a substitute for, other databases.

59. MUNSNI (usha majoo) and VASHISHTH(CP). Impact factors of Indian agricultural journal using science citation index. Library Herald. 31,1-2; 1992, April-September; 1-12

Discusses the citation behaviour of Indian Agricultural Scientists. Finds out the impact factor using science citation index and suggests the measures to enhance the image and reputation of Indian agricultural journals. The citation indicators distinguish between the hot stagnant journals in various disciplines. The distinction confirms that only a very small proportion of journals publish most of the new and significant information.
60. MOED(HE). Differences in the construction of (SCI) Science Citation Index based bibliometric indicators among various producers: A first overview. Scientometrics 35,2; 1996, February; 177-91.

This contribution discusses basic technical methodological issues with respect to data collection and the construction of level. It focuses on the use of the science citation index. The observations made in this paper illustrate the complexity of the process of standardization of bibliometric indicators. Moreover, they provide possible explanations for divergence of results obtained in different studies. The paper concludes with a few general comments related to the need of standardization in the field of bibliometrics.

61. MACROBERTS (Michael H) and MACROBERTS (Barbara R). Science Citation Index (SCI): Problems of citation analysis. Journal of the American Society for Information Science. 40,5; 1989, September; 342-9.

Discusses the problems of citation analysis. Most of them have either not been studied or have received only cursory attention. Since major errors results when these problems are not taken into
account, users of citation-based literature should proceed cautiously. Its different problems are formal influences not cited, problem of biased citing, informal influences not cited, self-citing has been frequently mentioned as a potential problem, problem of different types of citation, problem of variation in citation rate with type of publication, nationality, time period, and size and type of speciality, problem of multiple authorship. The SCI files derives directly from bibliographies and is therefore, no more accurate than the material in them.


Reviews the science citation index (SCI) on CDROM. Discusses the difference between the cocitation linking and the bibliographical linking. Since the system of SCI is based on the reference lists of the relatedx publications and the compilation is a typical expert work, the science citation index on CD-ROM can be regarded as a huge expert system.

63. MATSUSHITA (A). Science Citation Index on CD-ROM (DROM Professionals. 37,4; 1992, October; 270-82.

Describes the structure of science citation index and evaluates it in CD-ROM format. Looks at
searching by title word, author, citation, address words, journal and related records. Describes facilities for limiting searches, saving of search strategies, printing, downloading and help. Generally the software is quite easy to use and it has proved popular to Tokyo University library. Librarians are moving from searchers to instructors.

64. LEYDESDORFF(L) and COZZENS(SE). The delineation of specialties in terms of journals using the dynamic journal set of the science citation index (SCI). *Scientometrics*. 26,1; 1993, January; 135-56.

In order to attribute journals to specialties in a dynamic journals set by using aggregated journal journal citations derived from the science citation index, it is necessary to complement the multivariation analysis of this data with a time-series perspective. Empirical results indicate the feasibility of dynamic journal-journal mapping by using these methods.

The only citation indexing done on a broad scale currently is science citation index, which is published in book form and in digital formats by the institute for scientific information. When the online version of "science citation index" is used, the searcher needs to ensure that the number of citations obtained is correct. Those who use the citation data as a way to compare the accomplishments of scientists need to be aware of the limitations of citation indexing, which includes the types of literature missed in citation indexing and situation within the earth science field that affect citation counts.

66. NAGI-TETI (Barbara). The Science Citation Index in the multi-media environment. Online Preview. 13,5; 1990, May; 305-8.

Science citation index is published in print. CD-ROM, on-line and inhouse tape formats. Due to technology, automation and individual needs, all formats offer unique advantages and complement each other. Presents the primary features and benefits of each format to help library decision makers determine the best format or combination of formats for their user environment. Outlines pricing for combined formats. Presents ISI's policies regarding networking and the impact of networking on pricing.

In view of the recommendations of PRICSTI Seminar, attempts to assess the impact of Indian Scientific periodical on the world scientific literature on the basis of journal citation report, 1984. Traces the growth of Indian scientific periodicals in relation to world scientific periodicals. Considers citation pattern of Indian scientific periodicals and their impact to highlight: (i) who cites the Indian literature. (ii) ranking of Indian periodicals among world literature on the basis of coverage, impact factor and immediatly index, and (iii) self citation rate.

68. SINHA (SC). Indian Contribution on the literature of building science through (SCI) science citation index *Advances in library and information science*. 4,2; 1993, September; 187-203.

This paper is intended to quantify the Indian research activities in the area of building sciences as seen from the comprehensive abstracting services,
building science abstracts and the evaluate its impact on the world's literature which was found to be merely 2% as analyzed from the science citation index (SCI). The paper comments on the coverage of SCI, which appears to be not as good as in the area of technology in general and building science in particular as compared to be comprehensive coverage in the area of pure science.

BORDONS(M) and BARRIGON(S). Bibliometric analysis of publications of Spanish Pharmacologists in science citation index (SCI). *Scientometrics*. 25,3; 1992, November-December; 425-46.

Spanish pharmacologists published 344 papers of their total scientific production in journals classified by the science citation index in subfield different from Pharmacology and Pharmacy. Special features of the extra-Pharmacology area are also pointed out: irregular growth of publication number over years, high dispersion of publication in journals and subfields, high collaboration rate and low percentage of authors with at least 1 paper/years, among others.
70. LEYDESDORFF(L). The Science citation index and the measurement of national performance in terms of number of scientific publications. *Scientometrics*. 17,1-2; 1991, July; 111-20.

A debate has taken place recently over the issue of whether it is possible to account for differences in results when using various versions of the science citation index for the measurement of national performance in terms of number of scientific publications. Provides an overview of the various arguments which have been made, and reports that recent reorganisation in the on-line installations should make it possible to circumvent one of the major sources of error.

71. SNOW (Bonnie). Science Citation Index SEARCH changes: Abstracts and added indexing. *Online*. 15,5; 1991, September; 102-6.

The 1991 reload of SCISEARCH has brought the following enhancements—author abstracts now accompany 50% of citations added to the database since 1 January 1991; and there are 2 new types of subject indexing—author keywords (labelled descriptors on DIALOG) and keywords plus ( identifiers) provided by ISI. Illustrates the advantages of these new additions.
72. PATEL (DR). Citation study, selective dissemination of information (SDI) service using SCI CD-ROM Library and Information Science. 16, 2; 1991, Dec; 113-28.

Describes the importance of science citation index (SCI), journal citation reports (JCR) and their various parts; discusses the methodology used to retrieve information using SCI-CD-ROM and elucidates the various search carried out. Science citation index is a multidisciplinary index to the journals literature in the field of science & technology. It is necessary to know various approaches to consult SCI, JCR and their different parts in the book form. Exhaustive and quick retrieval of bibliography on a particular subject and developing SDI service using SCI CD-ROM was a thrilling experience.

73. WITTON (John). Drug information services. Library Association Record. 96,10; 1994, October; 553-4.

The institute of the study of drug dependence has an internationally renowned library and information service which is crucial to the understanding of the changes in and growth of the drug use problem. The ISDD library is exploring ways of making its database accessible to the wider world. The
library also has a wide range of current awaremen services which can be comprehensive or personalised and the library will be seeking to expand the range and take up of these services. But the nature of the drugs situation has changed in recent years. the government is reconsidering its drug strategy and the fallout of its deliberations is bound to affect the size and type of demands placed on library and its information service.

FOOD, NICFOS, USER EVALUATION.

74. RAMANNA(B), GOPINATH(MV) and SANGAMESWARAN(SV). User evaluation of NICFOS's services Library Science. 22,3; 1988, September; 141-52.

Discusses the value of user surveys to National Information Centre for food science. Adopts the questionnaire to survey of user's information needs. Information sources used, the value of photocopying facilities, translation services, are said to be popular. The respondents suggested for cumulative bibliographic services and commercial intelligence services. NICFOS (National Information Centre for food science and Technology) services provides in-house information facility external sources, mass media, discussions with colleagues and by correspondence (These are the sources of information of NICFOS).
Discussion that there have been significant advances in the development of consumer health information services over approach the new millennium. If we are to avoid the dangers of complacency, passivity and superficiality we need to develop new skills. The future consumers health information professional will need to be skilled in creating information products, interpreting information needs and reviewing and synthesizing information to support decision making.

The goal was to expand on the success of (University of Michigan) UM-MEDLINE, which allows faculty, staff and students free, unlimited searching in MEDLINE and other databases via Paper Chase. The current awareness service builds on the expertise of library staff in the delivery information services and the technical expertise of ITN's staff. Described are the origin of the project; site license negotiation,
implementation of the project and problems associated with the project.

77. CLINTON (Marshall). Current awareness and document delivery service in support of the health science. Bibliothèque Médica Canadienne. 12,2; 1990; October; 95-100.

Based on a paper presented at the Canadian health libraries association conference, the university of Toronto library introduced Scan Doc which links a PC-based current awareness and a document delivery service. ScanDOC is based on current contents on Diskette. It is aimed for the faculty and the affiliated hospitals. Free search results are mailed each week, and there is an optional document delivery service. Describes the institutional setting, the way in which the service is operated and the impact it has on its users and the library itself.

78. MCINTOSH(P). Scientific current awareness service in an international pharmaceutical R & D environment ASLIB Proceedings. 45,3; 1993, March; 83-7.

A system is to provide scientific current awareness for R & D staff at SmithKline Beecham
Pharmaceuticals is described. The system is based on an innovative combination of personal bibliographic software for capturing and reformating data from different sources under BASIS+text management software for duplicate removal and bulletin production. This combination has proven an effective and robust platform for the provision of the service on a multisite, international basis.


Reports on the results of a comparative study of the characteristics of the All-Union Institute of scientific and technical information database on automation, electronics and physics and of the INSPEC database. A comparison of the indexing of identical items on both databases shows that on average only 3 of the used keywords overlap. The AUISTI database contains authors abstracts while 36 percent of the INSPEC database abstracts are more detailed than the original abstracts.
80. DESS (Howard M). Online search strategies for semiconductor or superconductor materials by CAS ONLINE and INSPEC. *Journal of Chemical Information and Computer Science*. 31,1; 1991, February; 84-9.

Recent enhancements introduced by CAS ONLINE and INSPEC provide powerful new search capabilities for on-line retrieval of information about nonstoichiometric compositions in semiconductors and superconductors. In CAS-ONLINE, use of the 'dot connected atom sequence' permits retrieval of entire families of materials containing specified atoms. In INSPEC, use of the CI field serves a similar function. Illustrates productive search strategies, using these tools, and discusses their limits of applicability.


This article outlines the hardware requirements and software considerations of INSPEC online. The author stresses the ease of use and demonstrates applications. The documentation is shown to be complete and through. Some documentation extras, such as workstations aids for the patron, color-coded
labels and search basic cards, are described. The ondisc help system is also reviewed.

82. RICHARDS (Diane). INSPEC ondisc : Design consideration Aslib Information. 19,6; 1991, January; 221-3.

INSPEC ondisc is the CD-ROM version of the INSPEC database comprising a 3-disc set from 1989 onwards. Describes the main features of the INSPEC CD-ROM which cater for both end-users and information professionals. These include, free-text and field-specific searching, plurals and UK/US spelling, the library holdings facility and the INSPEC thesaurus. Outlines future enhancements.

83. CHRISTENSEN (Finn hjortgoard). Numerical indexing at INSPEC. Journal of Documentation. 45,3; 1990, November; 112-9.

In 1987 INSPEC introduced a controlled numeric indexing faculty in order to facilitate the retrieval of numerical values in their bibliographical database. Describes some of the problems INSPEC had to overcome, and with examples originating from DIALOG. Illustrates how this indexing can be used in subject retrieval and in data analysis of a set of documents.

The wealth of chemical information on the INSPEC database is easily retrieved using the printed subject indexes to the associated abstract journals. However, this subject indexing is insufficient for machine retrieval, and free-text searching has special difficulties. At the same time, a system has been introduced for the online retrieval of numerical data included in the database. This has successfully standardized the way in which such data is held for searching and enables further, refinement of searches where numerical information is significant.


Describes the service offered by information services for the Physics and Engineering Communities (INSPEC) of the institution of electrical engineers. Reports on how changes are brought in, how INSPEC is hoping to extend its market enhance its ease of use, and upgrade its database. Discusses journal selection procedures, the benefits of exhibitions, and on-line pricing policy.

A comparison was made between the relevance and quality of 24 SDI profiles on the INSPEC database, before and after the addition of searchable abstract words. It was found that there was a 40% increase in both the total number of hits and the number of relevant hits, with no statistically significant changes in relevance. Suggests that when good abstracts are written, indexing terms may be unnecessary.


Selective dissemination of information is an information alerting service designed to keep individuals informed of new developments in their particular fields of interest. This investigation evaluated the use of SDI by basic research scientists working in a corporate environment. The following
conceptual areas were considered in developing the best model of SDI use and productivity: 1, background of the individual; 2, work environment; 3, need to keep abreast of new research development; 4, use of information sources; and 5, productivity or number of papers published.


Describes a search carried out using a CD-ROM in science citation index and social science citation index focusing on the 'Related Records' or 'Automated' aspects of automatic indexing. While the effectiveness of related Records or Automatches cannot be judged from a single search, they do have the potential of being useful particularly during the cycling backwards and forwards in time type of search enabled by the design of citation indexes. Such a search carried out with the printed volumes is very time consuming whilst the information needed was identified within minutes using the CD-ROM and one Automatch.
A new indicator, Science Strategy Index, is proposed, which is based on the scattering of a country's science activity over all science fields and related to the world one to compare the structure of the publication output of countries as reflected by the used database, irrespective of the size the countries. The cluster map of countries achieved in this way deserves intense discussion of different national science strategies in the context of geographic, political, communicative and socio-cultural backgrounds.

The present study makes a census and critically analysis of the abstracting and indexing services in science and technology published from India since 1943. This article analyses these services in respect of periodicity, nature of publication, chronological development, subject coverage, document
type included for services, sponsorship, arrangement of entries etc. A total of 187 services have been identified in science and technology, out of which 106 are abstracting and 81 are indexing services.


Discusses that the Edinburgh engineering virtual library is a project, funded by the joint information systems committee, to develop a gateway to internal resources in engineering as part of the electronics libraries programme. This paper describes the background to the project and outlines the approach that has been taken to developing the service. EEVL will provide a similar range of options to these which are provided by the two ANR (access to network resources) services which are currently 'line', namely the social science information gateway (SOSIG) and organizing medical networked information.

Discusses the design of the engineering index reference desk, by engineering index. Particular emphasis is given to its present features and functions as well as introduction of a graphical interface for ease of customer use. Includes some of the beta test user suggested enhancements.

THESAURUS DEVELOPMENT.

93. MILSTEAD (Jessica L) and BERGER (Mary C). The engineering information thesaurus development project: Engineering Index. Information Services and use. 13,1; 1993, July; 71-80.

Engineering information, inc. recently developed a thesaurus for use in indexing its databases. the concept in the former, highly precoordinate, indexing vocabulary were converted into post coordinate descriptors, and a full set of thesaurus relationships developed. Issues to be resolved in developing the vocabulary included the degree of postcoordination that was appropriate, the need to make the thesaurus usable with retrospective indexing that could not be converted, and the demands on in-house staff during the development and conversion process.
BOYKIKEVA (I). Online access to Japanese information in engineering-comparative analysis of the JICST-E, INSPEC and COMPENDEX. Information Services & use 14,1; 1994, January: 25-35.

The paper presents a comparative research of INSPEC, COMPENDEX and JICST-E databases as information sources for Japanese documents in engineering. Six search topics, representing the most advanced engineering fields in Japan are used in this study. Also the speed of bringing online the references of Japanese scientific and technical documents in engineering is compared. The study proves that JICST-E is a significant source of Japanese information in engineering and in order to obtain more complete results, and multi-file searching including JICST-E is recommended.

CARR (C). Adding INSPEC to your chemical search strategy-let's get physical. Database. 18,2; 1995, April-May: 99-102.

While Chemical Abstracts (CA) will always be the central database for chemists "getting physical" can shape up searches in some areas. The authors
suggest supplementing chemical searches with the INSPEC database. This database originals with the institute of electrical engineers and it covers physics, electronics, electrical engineering, computer science and control and information technology.

**INFORMATIN SYSTEMS, SCIENCE, AGRICULTURE, ASSASSIN.**

96. CLOUGH (Robin). ASSASSIN : The ongoing development of a text storage and retrieval system. *Information Services and Use*. 9,3; 1989, March; 149-60.

ASSASSIN which is the first marque of the text storage and retrieval package stands for Agricultural system for storage and subsequent selection of information. ASSASSIN now had its own interactive search capability and the program that had originally set out to provide near automatic indexing to abstracts could now handle very large, complex documents, select them for specific dissemination, tum them into journals; produce more printed indexes than several reasonable men could possibly require; and structure the indexing terms it produced, to the satisfaction of the most dedicated thesaurus buff.

____, ____ , ____ , CARIS, LATING AMERICA, CARIBBEAN.

Discusses the organisation and operation of the current Agricultural research information system (CARIS), an international database covering research activities in the field. CARIS works through a decentralised network of national and regional centres, coordinated by FAO, which is responsible for maintaining the central data base from material supplied locally. Procedures and methodology are the same as used for AGRIS, which gives scope for greater cooperation between the 2 systems, 80 reducing efforts and increasing effectiveness. 21 Latin American and Caribbean countries now participate in CARIS. It is hoped to expand the network and improve coverage.

CLARK (MM) and ESMAN (MD). FAIRS: Cataloging Challenges. Cataloging and Classification Quarterly. 18,3; 1994, September; 97-119.

Researchers at the University of Florida Institute of food and agricultural sciences have produced a series of CD-ROMS, entitled FARIS (Florida Agricultural information retrieval systems), containing many of the state document publications used by agricultural extension agents when assisting the public. The article discusses the development of the FAIRS CD-ROM product, cataloging issues raised by
this use of full-text information on a disc, and two proposed electronic solutions to more easily catalog documents on this CD-ROM product.


The International Agricultural Information System, AGRIS is being compiled jointly by institutions of 117 countries and 14 international organisations. The Czechoslovak Institute of Scientific and technical agricultural information participates in the development of the system on behalf of Czechoslovakia. The system established in 1975, contains over 1 million references and has a growth rate of 100,000 references per year. Discusses the use of the system in Czechoslovakia.

100. NAIDU (Hema Sunder) and GUNJAL (SR). Contribution of Indian agricultural libraries to AGRIS. Bulletin of International Association of Agricultural librarian and Documentatlists. 22,3-4; 1990, December; 89-92
Stresses the importance of agricultural literature and efforts in cooperative information handling in the subject. Mentions AGRIS (the International Information system for the Agricultural Sciences) and reviews the contribution of Indian agricultural libraries to AGRIS through the Agricultural Research Information Centre. Suggests what role the Agricultural University libraries and Indian Council of Agricultural Research (ICAR) institute libraries could play in this regard.

101. LAUX (W) and STAGE (Eberhard). AGRIS input from the federal republic of Germany: An example of cooperation between decentralised agricultural documentation centres. Bulletin of the International Association of Agricultural Librarians and Documentalists. 30, 2; 1992, January; 40-51.

The West German input to the AGRIS database is produced in network cooperation between 22 specialised documentation centres. Present the historical collaboration and the data processing conditions of the network systems. The well established collaboration between the specialised centres enables comprehensive, speedy, and thorough evaluation of citations from AGRIS.
The AGRIS project is a co-operative information system within which all countries can exchange information on their research institutions, their research workers and their research programmes in order to improve communication at the level of research agencies and scientific personnel and to facilitate the evaluation of published research work and the identification of the major gaps and deficiencies, and also to help decision-makers at the national and international levels. As the project attempts to prepare as complete an inventory as possible of published agricultural research work being carried out in the world, Iran Agricultural Research & Scientific Documentation Centre is going to gather information about Iran's agricultural researchers and then published scientific research works in the form of AGRIS.

NIGERIA.

The objectives of this article are to examine the nature of documentation of agricultural information in Nigerian agricultural libraries and documentation centres, to discuss some of the problems of documentation of agricultural information in the agricultural libraries and documentation centres, to review the objectives and organization of the AGRIS programme and to highlight the prospects of the AGRIS programme for the documentation of agricultural information in Nigeria.


Discusses the status of Southeast Asia agricultural libraries and the problems of access to information faced by agriculturists in the region international efforts at enhancing the document delivery process and the potential of AGRIS to alleviate document delivery problems are discussed. Flows in the existing system are identified with suggestions on how they may be rectified, at least in terms of improving the problem of gaining access to
documents reported in AGRIS. The proposed AGRIS coupon scheme is reviewed.


Reviews the development of AGRIS—the process of its creation organisation, and the reactions of developed and developing countries to AGRIS especially regarding their participation in the system. The current position of the USA appears to be that information policies should be decided by competition in the market place. However, high level negotiations are being carried out between AGRIS, NAL and CAB to try and solve the different problems. The technical dimensions of AGRIS seems to be stable in the immediate future and for as long as negotiations continue.

Discusses that the achievements of targets set for all round agricultural research and development, depends on the information support to the scientists. Therefore, a National Agricultural Information System (NAIS) parallel to the National Agricultural Research System (NARS) is imperative for agricultural research in India. Discusses that the westernised style of information service is not practicable in Indian conditions. ICAR being the apex body has developed a well grid two tier national agricultural research system of cooperative agriculture consisting of research institutes, project directorates, and All India Coordinated research projects (AICRPs) of agricultural research in the country.

______, SCIENCE and TECHNOLOGY, CD-ROM DATABASES MEDLINE, EMBASE, AGRICOLA, COMPARATIVE STUDY.


In this article, a case study of three CD-ROM databases—MEDLINE, EMBASE and AGRICOLA—used by clinical departments, is discussed. A method was presented showing the information needs of the department which were grouped into three categories:
research, clinical gynecology and clinical obstetrics. A table comparing the total number of relevant articles retrieved for all nine questions and the percentage of unique hits showing that the overlap rate among the databases was substantial is given.

108. BLANTON (JM). Information strategy stands the test of time by INIS. Electronic Library. 14,2; 1996, April; 157-62.

The international nuclear information system has been operating for 25 years using a decentralized information strategy. INIS provides the opportunity for countries throughout the world to participate in an international information cooperative, by which they can be both contributors and benefactors of nuclear-related scientific and technical information. Central to the decentralized operation philosophy of INIS is the emphasis on information technology transfer, information skills development and the use of standards for information management and exchange.

Today the international nuclear information system (INIS) is generally regarded as a model for international cooperative information networks. Gives a brief introduction to the background of INIS. Gives an example of profile construction to obtain information, among others, about the item used as an indexing example, from this international database. Also makes mention of other applications of the INIS magnetic tapes in the AEC library.


Describes an interactive computer system designed to handle all the data associated with the USA National Cancer Institute’s (NCI) drug screening program. The system resides on the NIH DEC system 10 computers and allows interactive access to the entire NCI screening data system. This contains over 20 separate databases, including a chemistry file of about 400,000 structures and a biology file of approximately 1.5 million test records. New compounds and test data are added daily to the files, and the system also controls and records all the daily operations of the screening program, such as
acquisition, shipping, and biological testing of chemicals.

____, ____ , ____ , ONCOLOGY, CD-ROM, DATABASES.


Discusses the development of a vertically oriented CD-ROM database product in the medical subdiscipline of oncology by the Division of Cancer Prevention and Control of the National Cancer Institute. Called Onco Disc, the CD-ROM is mastered by I.S. Groupe, contains 3 major information collections: PDQ (a system of a series of files and a set of relationships; the user accesses the date through those relationships); CANCERLIT (the research statement that underlies the treatment information contained in PDQ), the full-text articles. Search LITE, the retrieval system, is written in C language and has been implemented on the DEC VAX family and IBM PC/XT and PC/AT. The disc provides a personal library of Oncology information for immediate local use by the health professional; it requires no subscription to an on-line service, no telecommunications, and no on-line search charges.

IRIS (Integrated Risk Information System database), a collaborative project of the US national library of medicine and the environmental protection agency, made its debut on the TOXNET system in March 90. It contains 412 records and is updated monthly. The database is an official on-line version of information about health risk and regulatory information on the listed chemicals. The file is also available on the chemical information system (CIS) micromedex and DIALCOM systems.


The Medical Archival system (MARS) is an information retrieval system utilising distributed parallel processing. It features a modular design, machine independence, and a Bodean avery interface, based on a UNIX environment, Developed at Pittsburgh University in response to the information needs of a large academic health center, MARS integrates textual
data from a wide variety of sources to create a single, comprehensive medical records information system. It currently contains 850,000 medical reports, 2,500,000 medical references and 500,000,000 indexed words. Describes the software design of MARS and its implementation as a practical system for large-scale information management.


This paper discusses a method of adding a library of radiological images to MEDAS (Medical emergency decision assistance system). The library is interfaced with the MEDAS knowledge bases. This library can be used as a tool for training medical students and residents in understanding imaging and its role in diagnostics.

115. GENSICHERN (T) and HELMS (M). MIDAS: A medical library's database access system. Computers in libraries. 15, 1; 1995, January; 20-3.
MIDAS (Medical Information database access system) is a cooperative effort at the University of Nebraska between the medical center's computing services and telecommunications and a local consortium of health-related libraries. It allows network users in local and remote areas instant access to a variety of information 24 hours a day, and supports as many as 100 current users. Details of hardware, software and databases are given.

MEDLARS.

SNOW (Bonnie). Medicine online: Progress and prognosis. Online. 11,1; 1989, January; 125-7.

Traces the history of medical on-line information systems from the ist service MEDLARS (Medical Literature Analysis and Retrieval System) from the USA national library of Medicine (NLM), which appeared in 1968. A major trend has been the introduction of front end software to facilitate searching by new users and moves to make the services more user friendly. Discusses the coverage of the services, and the problem arising when specialisation teads to fragmentation of knowledge. Notes that although according to one survey in 1982 of the 215 data bases used by USA medical institution,s only 6 accounted for 79% of this usage. Another survey found
MEDLINE accounts for 75% of all on-line usage in medical school libraries in North America.


For many years, searching medical and health-related topics has caused thousands of searchers to consult the well-known MeSH vocabularies are available for searchers who wish to benefit from the consistency afforded by consulting established term lists. Occasionally, use of keywords from vocabularies other than MeSH is recommended even when information in the database is also indexed to MeSH. After an introduction to MeSH basics, the article examines keyword searching in bibliographic databases covering specialized subjects (POPLINE, BIOETHICSLINE and HISTLINE) and in bibliographic databases covering toxicology (TOXLINE), TOXLET, EMIC, DART and ETICBACK.

Systematic manual search for articles related to consultation liaison psychiatry was compared to an online search of the MEDLARS (MEDLINE) database. More articles were located with the manual method (94%) than with MEDLARS (65%). MEDLINE is available to all hardwired and dial-up VAX users. Reports the successful operation of the system.

119. BRONSON (RJ). MEDLARS special features, search hints and tricks. Medical Reference Services quarterly. 12,1; 1993, August; 39-54.

Briefly describes some of the shortcuts and special features available in national library of medicine’s MEDLARS databases and data banks that can be used by searchers to save connect time and overall search costs. The databases are also compared with their online counterparts. Suggests that silver platter should organize the databases as a package, with the first step being the harmonization of the field tags for codes and second step to have package pricing for some combination of the three products and the final step to expand the documentation and emphasize when these different products should be used.
BRANDSMA (R). A comparison of the coverage of clinical medicine provided by BIOSIS perviews and MEDLINE. Online Review. 14,6; 1990, December; 367-77.

In a comparison of the coverage of clinical medicine, by the BIOSIS Perviews and MEDLINE databases, 6 numbers of the biomedical working group of VOGIN (Vereniging Van Online Gebruikers Van Informaties. Systemen in Nederland) looked at problems requiring diagnosis and treatment. Results show that while it is more economical to use MEDLINE, BIOSIS perviews provides a greater degree of completeness and often provides an unexpectedly large amount of new information. BIOSIS perviews strong point is its coverage of books and meetings.

BURNAHAM (J) and SHEARER (B). Comparison of CINAHL, EMBASE and MEDLINE databases for the nurse researcher. Medical Reference Services Quarterly. 12,3; 1993, August; 45-58.

The purpose of this research was to determine which of three databases, CINAHL, EMBASE or MEDLINE, should be accessed when researching nursing topics. The search on substance abuse is pregnancy, not...
restricted to nursing literature, retrieved better results when searching both MEDLINE and EMBASE. Due to the nature and distribution of the nursing literature, it has been found to be especially important for the searcher to understand and respond to the focus of the researcher.


This paper discusses the growing importance of information management in the practice of medicine. It cites studies that demonstrate the value to patients of early use of information resources by physicians. The paper specifically addresses information management and curriculum integration, and objectives for MEDLINE in objective structured clinical examination (OSCE). The paper reports recommendations by the university of Florida College of medicine curriculum committee for changes that would meet the information management needs of its physician graduates.

One important feature of some of the available CD-ROM MEDLINE databases is the capability of printing availability messages for a library's local periodical holdings. Reports results of a 1-month survey of user's responses to periodical availability messages on CD Plus MEDLINE at the medical library of Veterans hospital, and the effect on the library's interloans. Users were found to appreciate the feature and advantages claimed include: saving of time in checking availability of item in library and the ability to limit searches to just these items available in library's stock. The decrease in interloans was seen as a great advantage to the library.


An initiative by the North West Thames regional information technology agency has resulted in the provision of some 80 CD-ROM drives and copies of the MEDLINE databases in National Health Service
Libraries. Describes the development of the scheme and its implementation and outlines future developments.

AFRICAN EXPERIENCE.

125. HUNTER (GY). MEDLINE on CD-ROM: Thoughts and experiences from central Africa CD-ROM librarian 6, 7; 1991, August; 22-3.

Reports the experiences of the AFRO health sciences library and documentation, Congo, with the Silver Platter version of the MEDLINE CD-ROM databases. Improvements in information provision is tempered with years concerning poor internal communications within the country poor internal communications within the country and worsening economic conditions leading to doubts about the sustainability of the faculty.

CHINA.


Many medical workers and librarians in the Chinese People’s Republic (CPR) have been drawn to CD-ROM because of its high density, cheap storage, long term conservation and convenient use. The analysis of
medical information requests in biomedicine, confirms that CD-ROM is very useful in the CPR. Some weaknesses of CD-ROM are also pointed out. Concludes that CD-ROM is the future for information retrieval in the Chinese People’s Republic.

CUMULATIVE INDEX, COMPARISON.


With the introduction of the cumulative index to Nursing and allied health literature (CINAHL) on CD-ROM, research was initiated to compare coverage of nursing journals by CINAHL and MEDLINE in this formal, expanding on previous comparison of these databases in print and online. The goal of the research was to develop quantifiable tools to help determine which database to purchase for an academic library serving an undergraduate nursing program.
The realization that both the cumulative index to nursing and health literature (CINAHL) and MEDLINE were available as Silverplatter CD-ROM databases, raised questions regarding the overlap, coverage and choice of database. The most valuable periodicals in the four fields is laboratory technology, medical records, radiologic technology and respiratory therapy, were identified and the result indicated that both CINAHL and MEDLINE on CD-ROM are valuable information services, each database covering unique periodical titles and yielding unique relevant citations.

Reports the results of a comparison of the coverage of nursing periodicals by the Silver Platter CD-ROM databases: MEDLINE and the cumulative index to nursing and allied health literature. The study assessed search results for 8 topics in 1989 and 1990 citations in both databases. Concludes, that although CINAHL is the preferred database for nursing students, MEDLINE should also be consulted for comprehensive searches because of its high percentage of unique citations.

130. HERCOVA(J), Use of CD-ROM MEDLINE database produced by DIALOG. Information Today. 34, 3; October; 67-9.

In view of the limited access to the MEDLINE database available via the national information centre in Prague, the scientific information centre and institute of clinical experimental medicine decided to purchase a CD-ROM version. After a careful comparison of the MEDLINE CD-ROM databases available a decision was made to purchase the DIALOG version of MEDLINE. Explains the command language and outlines the advantage of the CD-ROM format. The only drawback of the CD-ROM version is that the whole set of discs must be returned if the subscription is not renewed.
131. UENO (Madoka). Introduction and use of MEDLINE DIALOG on DISC. Online Kensaku. 11,4; 1990, December; 185-94.

Describes the introduction of MEDLINE DIALOG on DISC in Kitasato University medical library Japan. Reports on the frequency of its usage and problems to be tackled in the future. CD-ROM retrieval had good results compared with on-line retrieval. Describes how to search on-line with DIALOGLINK in DIALOG on DISC MANAGER.


A comparison of DIALOG on disc and silver platter interfaces in relation to MEDLINE is made. The CD-ROM technology, hardware requirements, installation procedures, scope, cost, terms, searching the system, displaying and printing search results, documentation and user support given by them are discussed in this paper.

In this paper, three MEDLINE-on-CD-ROM interfaces are compared: SPIRS (version 3.11) and WinSPIRS (version 1.0) from Silver Platter and OVID (version 3.0, DOS and Windows interfaces) from CD plus technologies. The author concludes that there are significant differences among the interfaces in the way data are present and can be searched. These different approaches are discussed, and a detailed comparative table is included. Specific issues covered in describing the interfaces are: general interface layout, database selection, retrieval, thesaurus searching, printing, and downloading.

The study compared and user searching of the CD-ROM MEDLINE database with librarian mediated searching, not from the technical or cost point of view, but to find out the reasons why users choose one system or the other and examine the reasons users give for their choices. Respondents who preferred CD-ROM searching did so because they liked doing their own searches and the fact that there were no costs involved.

TAYLER (JK) and BRAHMI (FA). The effect of a local area MEDLINE network on online end-user and mediated searching. Medical Preference Services Quarterly. 12,4; 1993, January; 1-6.

Two earlier studies reported the effect of CD-ROM MEDLINE on online end-user and mediated searching at the RushLilly medical library of Indiana University. Since then, MEDLINE network and more recently to a magnetic tape based network, and is now experiencing vastly increased numbers of end-users as well as a resurgent demand for mediated searches. This article discusses the effect of the network on RLML's searching program and training efforts.

Reviews related literature and gives the details of the methodology used. The results indicate that most users prefer librarian-mediated searching because librarians are more familiar with MeSh headings and search strategies. However, they generally use CD-ROM more often. The authors present the results of a survey of users at Tompkins-McCaw library in Richmond, Virginia.


The objectives were not only to quantify the mean currency of the articles, but also to establish whether the priority level, the periodicity and the subset had any influence on currency. The results show that the currency of a description can very fremonously. Priority level, periodicity and prior database were found to have a low but highly
significant influence on currency. The 10 most important serials are shown as examples of the database for secondary results.

SILVER PLATTER VERSION, USAGE.


The Nippon Medical School library, Tokyo, analyses the contents of Silver Platter's of MEDLINE on CD-ROM, along with the previous 14 editions. Publication years of literature included in the January - May 90 edition range from 1966-90 and altogether there are 10,906 items besides those published in 1989-90. 202 of these were chosen randomly to check their inclusion in the CD-ROM of the appropriate year. National library of Medicine and silver Platter provide reliable databases in future and if errors are made, announce the fact to users at once.

THAILAND.

An analysis of requests for compact Cambridge's CD-ROM MEDLINE searches from June to December 87 at the medical library Chulalongkorn University, was performed. Requests were received from 82 places, in Bangkok and the provinces; 97.8% were from government organisations. Medline on CD-ROM was available from 1982 to date. Most users requested searches covering the previous 5 or 6 years. Over 87% found the service user-friendly. In addition users suggested that the library conduct search training programme, and over half the users noted that a single work station could not meet the search load.

____, ____ TRAINING.


According to the survey, most US medical school libraries are attempting to provide some from of training for CD-ROM MEDLINE Users. User guides and vendor-produced tutorials are helpful but are not usually a major aspect of the training. Training sessions vary considerably in length as well as number of attendees, with individualised classes. A core most widespread few facilities offer advanced classes. A
core list of training topics has been identified. Evaluation of the training has been in only a small percentage of the libraries.


Revised version of a paper delivered to the European association of health information and libraries workshop on human issues in library of end users on CD-ROM MEDLINE at chaing cross and Westminster medical school library revealed a need to consider the practical constraints before being able to identify the types of training which could be offered. List these factors and discusses the resulting components of a training programme considered appropriate for CD-ROM MEDLINE: demonstration, self-instruction methods, documentation and formal teaching programmes.


Effective delivery of biomedical information to health professionals depends on the availability of
systems that are compatible with the information-seeking patterns of health professionals. The recent availability of MEDLINE on CD-ROM has made it possible to provide MEDLINE directly to clinicians without the associated problems of telecommunications and online use charges. The MEDLINE on CD-ROM evaluation forum sponsored by the Nationl library of Medicine reported on clinicians use of CD-ROM MEDLINE centres. Summarises the findings and places in the context of current understanding of information-seeking of health professionals. Key issues in the design of information technologies in the clinical setting are also articulated.

_, _, _, _, _, USER, MEDIATED SEARCHING.

143. BRAHMI (Frances A) and TYLER (Julia K). The effect of CD-ROM MEDLINE on online end-user and mediated searching: A fellow-up study. Medical Reference Services Quarterly. 9, 3; 1990, August; 15-20.

This fellow-up study reveals that the proportion of mediated searching has been drastically reduced from 94% in 1986/87 to 39% as of November 89. Mediated searches are declining in absolute numbers as well. End-user searching, by contrast, has increased by 54% over the previous year. A related trend is the increased use of CD-ROM by the librarian as an
alternative to mediated on-line searching. These trends are expected to continue as Indiana University school of medicine library expands its CD-ROM Operation to include other databases. As mediated searching declines, the librarian’s role will increasingly include end-user training.


Outlines the findings of research into end user searching of the MEDLINE database on CD-ROM. Results of 3 surveys showed that most end users were satisfied with their search results; less experienced searchers, the more satisfied they were likely to be. CD-ROM was used mainly during everyday clinical routine, while mediated on-line searches were carried out more frequently in connection with single events of scientific and professional education. Clinicians and scientists interviewed preferred independent CD-ROM searching.
GERC (Ana) and KRSMANOVIC (Milenko). MEDLINE on CD-ROM: The impact upon a small hospital library. Health Information and libraries. 1,4; 1990, October; 45-54.

Describes a user survey of MEDLINE on CD-ROM carried out at the internal medicine library. The records of 437 searches were analysed. The greatest number of searchers (43%) were performed for younger users. Specialists working at the internal medicine department accounted for 24% of searches while the remainder were performed for other departments. 59% of searches were evaluated as being excellent; 21% very good; 11% good; 6% load; and 3% failure concludes that in small medical libraries, with limited financial resources, CD-ROM tends to be the technology of first choice for bibliographic information.

SOREMARK (Gun). MEDLINE Versus EMBASE: Comparing search quality Database. 13,6; 1990, December; 66-7.

The MEDLINE and EMBASE databases were compared by conducting the same, pharmaceutical, using a combination of free text and controlled vocabulary searching, on the 2 databases on DATA-STAR on the same day, MEDLINE yielded 44 relevant references. EMBASE yielded 37 relevant references. Concludes that EMBASE
is faster in entering information into the system. Both databases suffer from a lack of description indexing.

\[\text{Compared with MEDIS.}\]


Describes a study designed to establish whether full-text versions of medical journals are available for searching sooner than their bibliographic counterparts. The journals in question are those found in the comprehensive core Medical Library (CCML) from BRS information technologies and in MEDIS current journal fields. The data revealed substantial fluctuation in competitive currency for MEDIS/MEDLINE over the period of the test.

\[\text{CRITICAL INCIDENT TECHNIQUE, EVALUATION.}\]


In August 88 the National library of Medicine launched a unique study employing the Critical Incident Technique (CIT) in an attempt to address the problem of whether information professionals to
support medical decision making and patient care, in a scientific manner. The study indicates that MEDLINE is used with a remarkable diversity of medical need and positive effect. The study substantiates the value of the library’s service.


This paper reports on a study undertaken to determine the percentage of articles indexed in MEDLINE that included an abstract and the distribution of these articles by language in the period 1981-1990. The results are interpreted as a rough indicator of how well MEDLINE represents the true global status of biomedical sciences worldwide. The results indicate that papers written in English represented 74% of all articles indexed in the period.

To obtain references for the diseases in the DX plain database, a generic search strategy was created and then combined with a communications protocol for MEDLINE. DX plain is a medical diagnostic aid program developed and maintained at Massachusetts General Hospital. The system provides the user with the ability to specify the number of articles that the user wentsx returned from MDELINE. This paper describes the technique by which the articles are retrieved, as well as the review process and the success rate of the system in identifying appropriate articles.

151. BRAHMI (FA) and EMMETT (TW). Physician's online: A free version of MEDLINE M.D. Computing. 12, 5; 1995, September-October; 398-9.

Examines physicians online, the newest entry into the MEDLINE database market, which has released "advance the exchange of knowledge throughout the medical community". The authors discuss such topics as the installation process of physicians online, its usage and search options. Also reviewed are the major limitations of Physicians online, as well as its future plans and services.
Remote Access MicroMesh (RAMM) is a powerful but easy-to-use microcomputer for searching the MEDLINE database. RAMM incorporates MicroMeSH, a microcomputer implementation of the National Library of Medicine's medical subject headings (MeSH) vocabulary. RAMM facilitates the creation of highly specific MEDLINE search queries. The goals in creating RAMM were to provide a system that could be used to search the medical literature and to teach the basic skills required to use MeSH and MEDLINE. RAMM has been used by clinicians, library professionals researchers and students at Harvard medical school. This paper describes the preliminary results of that evaluation.

Investigators at McMaster University compared 14 ways to search the MEDLINE database and concluded
that the method that cost the least yielded the highest proportion of relevant articles, whereas the method that cost the most yielded the least. This paper maintains that there are serious defects in the study design that invalidate the McMaster author’s conclusions.

154. LOWE (H) and BARNETT (GO). Demonstration of an enhanced microcomputer system for searching the MEDLINE database. American Medical Informatics Association. 30,9; 1995, September; 1009-11.

Remote Access MicroMeSH (RAMM) is a powerful but easy-to-use microcomputer system for searching the medical literature. RAMM uses microMeSH, a system for accessing the National library of medicine’s (NLM) medical subject headings (MeSH) vocabulary, to facilitate off-line creation and refinement of highly specific MEDLINE search queries. Using these queries, RAMM automatically searches and retrieves citations from the MEDLINE databases through the NLM medical literature analysis and retrieval system (MEDLARS). As search query creation and citation review are performed off-line, the cost of on-line searching is minimized.

This article reports the results of a survey of MEDLINE users in order to identify these users and determine how they use the biomedical literature. The survey also addressed training in MEDLINE searching. The various systems available for accessing MEDLINE, the desired types of MEDLINE training, and the types of appointments held by respondents are among the topics discussed. Use of MEDLINE at the university of Minnesota was found to be common, and more than a third of the users conducted their own searches.

156. WOOD (RT). Using an offline hedge to restrict MEDLINE searches to local holdings. Medical Reference Services Quarterly. 14, 2; 1995, July; 13-23.

The Louisiana state university medical center-shreveport library has developed a computer program to filter MEDLINE search retrieval and separate out citations to journals in its they are offered the option of having their retrieval restricted to local holdings. This article presents a historical background to this journals hedge program; describes refinements, statistically analyzes searches; and discusses operations procedures.
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157. CHIANG (D). A graphical teaching aid for explaining MEDLINE and access to it. Medical Reference Services Quarterly. 11,4; 1992, February; 83-90.

Presents a graphical teaching aid for explaining MEDLINE and access to it. The elements of the diagram are reviewed, including biomedical journal literature, the indexing process, the MEDLINE database at the national library of medicine, printed products, access through author mainframe computer, direct dial-up, dial-up through local front-end software, CD-ROM and user's computers.

__ __ __ __ __ DATA CONVERSION, dBASE III.

158. ABE (Shinichi). Converting MEDLINE data into dBASE III data. Online Kensaku. 11,2; 1990, January; 76-9.

Tokyo Jikei University school of medicine information centre began using MEDLINE CD-ROM in May 89. Search results can be viewed on-screen, printed or downloaded. A personal data base can be created by downloading data into dBASE III. Describes the file structure. Information must first be downloaded from the CD-ROM, converted to a text file and transferred to dBASE III using a hard disc NEC 98 computer with dual disc-drives. staff and researchers use the personal computer data management system DOMDOMS and
the text is of course compatible with this. The program is appended.

159. HAIQI (Z). Distribution of the papers on drugs chinese herbal in MEDLINE database: A bibliometric study. Online Review. 14, 4; 1993, October; 193-203.

Describes a bibliometric analysis carried out on the references of the papers on drugs chinese herbal retrieved from MEDLINE. The 2192 references, published between 1988 and 1992 in 223 journals, were the samples for the analysis. Results illustrate a reasonably hierarchical ranking of journals according to the number of papers. Evaluates a distribution of the publication year of those papers and the scattering of their languages.

160. YONKER (VA) and YOUNG (KP). Coverage and overlaps in bibliographic databases relevant to forensic medicine: A comparative analysis of MEDLINE. Bulletin of the Medical library Association. 78,1; 1990, January; 49-56.

This study was designed to make a comparative evaluation of the performance of MEDLINE in covering serial for characterizing work used by researchers in this field. The results of comparising MEDLINE to
other databases evoked some concerns about the selective indexing policy of MEDLINE in serving the interests of those working in forensic medicine.


Discusses that the project is investigating the provision of an expert system which will act as an on-line search intermediary for the cancer-therapy literature referenced on MEDLINE. The system uses a set of menu-type displays derived from the MeSH thesaurus and allows the end-user to select terms and concepts by touch. The programming adopts a rule-based approach with the actual programs being written in PROLOG.


A project designed to test the relative efficacy of index terms and full-text for the retrieval of documents in those MEDLINE journal for
which full-text searching was also available. The full-text files used MEDIS from MEad Data Central and CCML from BRS information technologies. 100 clinical medical topics were searched in these files as well as the MEDLINE file to accumulate the necessary data. Full-text identified significantly more relevant articles than did the indexed file, MEDLINE. The full-text searches, however, lacked the precision of searches done in the indexed file.


A study was undertaken at McMaster university medical centre, Ontario, to observe medical personnel search MEDLINE in the clinical setting. Through direct observation, search capture, interviews, and questionnaires, reasons for successful and unsuccessful searchers were determined. Report new data analysis the reasons why end users searchers were unproductive.

Finding references accurately and comprehensively depends upon correct searching techniques and some understanding of the indexing methods used by the database. Reviews the indexing methods used in index medicus and its on-line database equivalent, MEDLINE, with specific reference to the occupational therapy subjects: rehabilitation, psychiatry and community care. Aspects covered include specificity, coordination and the hierarchical nature of the indexing thesaurus and the relative merits of the published and on-line formats.


Bibliographic references are an important part of databases and information resources used by clinicians and biomedical researchers. In addition to the obvious clerical advantages of standard references, bibliographic references can also be used
as links to related items in different data sets. This paper describes an effort that involved matching references from a variety of disparate databases to canonical MEDLINE references. The references matched were those involved in a database unification project. Software was developed to take advantage of a commercially available retrieval engine which access MEDLINE on CD-ROM discs. The matching process described can be used as a model for similar efforts with different research or clinical datasets, as well as different hardware or software environments.


The health sciences libraries consortium (HSLC), a group of health sciences libraries based in Philadelphia, has implemented a MEDLINE database retrieval system based on the CD plus PlusNet2 system. The centralised servers and 4 distributed servers, and is accessible over the HSLC wide-area network linking all of its members. Describes the implementation process from selection of the system to future development.

Investigates the effect of introducing user fees on the frequency and quality of MEDLINE searching with GRATEFUL MED by physicians in clinical settings. The study shows that clinical settings imposing user charges for on-line searching in clinical settings after a period of free use adversely affects searching quantity, MEDLINE providers should consider whether user fees will undermine its benefits.

168. ALBRIGHT (RG). Paperchase: The gateway to MEDLINE. Online Information Systems for Health Care Professionals. 24, 4; 1990, April; 69-80.

This paper describes paperchase, a system developed at the center for clinical computing at Beth Israel in Boston to use the electronic storehouses of the National library of medicine. The system keeps track of the hospital's own files, but has been expanded to use computer files leased from NLM. Access to all the citations in MEDLINE is available. The software has a built in thesaurus that directs the search, as described.

Methods are described for evaluation of the competence of clinicians in using MEDLINE with GRATEFUL MED and their application in a trial of self-service MEDLINE access in clinical settings is assessed. The methods are based on analysis of automatic microcomputer monitoring of search transactions followed by post-search interviews. The performance of these measures is described and statistical issues are explored in relation to the analysis of the non-parametric data produced from search comparisons.

170. FITZGERALD (D). Flat-rate pricing for MEDLINE. American Medical Informatics. 30,8; 1995, August; 770-771.

Academic health sciences centers are interested in determining the most cost-effective approach to providing institutional access to MEDLINE and other health science databases. Approaches include
providing MEDLINE subsets on institutional computers stand alone or networked CD-ROM workstation, or unlimited access to MEDLINE online. Increasingly, database vendors are recognizing the advantages of providing access to their online databases at flat-rate pricing arrangements.


The radiology information service at the Bowman Gray school of medicine of wake forest university, performs a wide range of functions from physician continuing education to a photocopy service, including approximately 450 demand literature searches annually. The complexity of the field of radiology, the rapid advances the part of radiologists and basic scientists requesting searches make on-line literature retrieval a challenge for even the expert radiology librarian. Presents up-to-date searching terminology, suggested search formulation, and bibliographic sources which have proved valuable in the functioning of the Radiology Information Service.
This paper evaluates the retrieval effectiveness of query expansion strategies on a MEDLINE test collection using Cornell University's SMART retrieval system. Three expansion strategies are tested on their ability to identify appropriate MeSH terms for user queries: expansion using an inter-field statistical thesaurus, expansion via retrieval feedback and expansion using a combined approach. The study recommends query expansion using retrieval feedback for adding MeSH search terms to a user's initial query.

The objective of this research is to investigate a new approach for query expansion based on retrieval feedback. The study was designed to make a comparative study of retrieval effectiveness using the original unexpanded and the alternative expanded user queries on a MEDLINE test collection of 75
queries and 2,334 MEDLINE citations. The results of the study are presented and discussed. The author concludes that retrieval feedback offers a robust procedure for query expansion that is most effective for MEDLINE when applied to the MeSH field.

SEARCH.


One of the key variables in the optimisation of the retrieval process is the logic imposed on a set of query terms. If the query is small, a combinatorial algorithm can be employed to identify search expressions having an optimal logical form. Describes an experiment in which this was done for queries expressed against MEDLINE, for a variety of criterion variables. The method employed is useful not only for assisting but also as an experimental control device to assist investigations into the effects of varying the set, and number, of search terms.

SEARCHERS GUIDE.

175. PRATT (GF). A brief hitchhiker’s guide to MEDLINE. Database. 17, 1; 1994, February; 41-6.
This article provides searchers with a better "feel" for choice routes when planning MEDLINE searches. The MEDLINE profile presented in this paper came from subsets taken from 1987 to June 1993 via BRS, where each subset contains approximately two million database records. Some of the topics discussed include: the use of appropriate tags to the database records, the most common publication types, common subheadings, the MeSH file, and subset searching.

176. WILCZYNSKI (NL). Assessment of methodologic search filters in MEDLINE. American Medical Information. 30,8; 1995, August; 601-5.

A study was conducted to determine the retrieval characteristics of methodologic textwords and MeSH terms in MEDLINE for identifying methodologically sound studies on the etiology, prognosis, diagnosis, and prevention and treatment of disorders in general adult medicine. The authors conclude that the performance of methodologic MeSH terms and textwords varied greatly in MEDLINE and changed from 1986 to 1991. More complex search strategies may be required to optimize retrieval.

The authors describe a librarian knowledge-based system that generates a search strategy from a query representation based on a user's information need, together with the natural language parser AQUA, the system functions as a human/computer interface, which translates a user query from free text into a BRS onsite search formulation, for searching the MEDLINE bibliographic database. In the system, conceptual graphs are used to represent the user's information need.


An investigation of search effectiveness in Medline used regression analysis to compare the relative influences on search performance of the three variables: database informativeness had mean specificity of the query. Database informativeness had
a statistically significant, but small, influence on search performance in almost all the data-sets, and this influence could be in either direction, depending on the data-set. The influence of term specificity was in general not statistically significant. Overall, the three predicting variables were able to explain up to 50% of the variation in search performance.

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The project is investigating the provision of an expert system which will act as an on-line search intermediary for the cancer-therapy literature referenced on MEDLINE. The system uses a set of menu-type displays derived from the MeSH thesaurus and allows the end-user to select terms and concept by touch. The programming adopts a rule-based approach with the actual programs being written in PROLOG.

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It discusses compared features and determined four-end user systems. (Paperchase, GRATEFUL MED, Medibase or compact cambridge: MEDLINE) would best serve the medical sciences and optometry libraries of Indiana University in providing bio-medical information to faculty and graduate students through MEDLINE. The study consisted of a comparison of the features of each system based on available documentation; a controlled search performed by the investigators on each system and on regular NLM MEDLINE; and a user study based on observations, questionnaires and interviews with 11 library patrons who performed the same search of their choice on each of the 4 systems.

GALLAGHER (Kathy E). Full-text and bibliographic database searching in the health sciences: An exploratory study comparing CCML and MEDLINE. Medical Reference Services Quarterly. 9,4; 1990, January; 17-25.

An exploratory study to investigate the perceived differences between searching full text databases and bibliographic databases was undertaken, BRS’s full text database, comprehensive core medical library (CCML), and BRS’s current MEDLINE run in the 2
databases and the results evaluated regarding currency of search results, success in answering specific questions, uniqueness of information retrieved, and relevancy of retrieval. Connect time and cost were noted to aid in determining the feasibility of offering full text database searching as a charged service.

182. Haurourt (AM). Structured abstracts in MEDLINE. Bulletin of the Medical Library Association. 83,2; 1995, April; 190-5. This paper analyzes a study which had the objective of characterizing the structure of abstracts in biomedical journals indexed in MEDLINE over a three-year period as an initial step in exploring their utility in enhancing bibliographic retrieval. The average length of the structured abstract was greater than the average length of all abstracts in MEDLINE. It was concluded that the presence of structured abstracts may be associated with other article characteristics that lead to the assignment of a higher average number of MeSH headings or may itself contribute to the assignment of more headings.
183. WENDER (Ruth W) and THOMPSON (Clinton M). Teaching MEDLINE to non-urban end users. Medical Reference Services Quarterly. 8, 2; 1990, May; 25-40.

The University of Oklahoma health sciences center library conducted a 2 year programme, funded by the National library of medicine to teach non-urban health professionals to perform searches of NLM’s MEDLINE files using micro-computers. The hands-on practice time. The initial target audience of non-urban physicians was later broadened to include other health professionals.


Investigates the effect of introducing user fees on the frequency and quality of MEDLINE searching with GRATEFUL MED by physicians in clinical settings. After training and free use participants were randomly allocated to pay searching costs or continue without fees. 59 physicians participated. the study shows that clinical settings imposing user charges for on-line searching in clinical settings after a period of free use adversely affects searching quantity, MEDLINE
providers should consider whether user fees will undermine its benefits.

185. HSU (Peggy P) MEDLINE end-user survey: The university of Florida experience Medical Reference Service Quarterly. 10, 1; 1991, August; 49-64.

Florida university health center library (UF-HSCL) surveyed MEDLINE end user activities of the faculty from the 6 colleges which the UF-HSCL Serves. A questionnaire was developed and sent to all faculty members. This survey was intended to identify the users, the reasons for faculty members not being end users, the purpose for searching MEDLINE, the information retrieval methods, the level of end user satisfaction, and the librarian's role in information retrieval activities. Many findings from this survey were in agreement with those of the 1988 study by the National library of medicine.


The indexing vocabulary is an important determinant of success in text retrieval. This paper
offers a detailed analysis of prior results and their underlying experimental designs. The analysis indicates that there are a number of open questions relevant to the overall debate on indexing vocabularies for MEDLINE. This paper also offers results from a new experiment assessing eight different retrieval strategies. These strategies involve document indexing via free-text, MeSH and several alternative combinations of the two vocabularies. The results indicate that MeSH does have an important role in text retrieval.


The MELVYL MEDLINE project resulted in the addition of all full 5 year subset of MEDLINE to the University of California’s (VC) MELVYL on-line union catalogue. As one of the nation’s largest MEDLINE end-user searching systems, MELVYL MEDLINE provides on-line bibliographic access to the biomedical journal literature for all VC personnel at over 70 library sites or by remote access. Summarises the project’s accomplishments, reports MELVYL MEDLINE use and its impact on library services, and provides insights for
other end. User search systems. Discusses advantages and disadvantages of the system and outlines future enhancements.

188. LYNCH (Clifford A) and BERGER (Michael G). UC MELVYL MEDLINE system: A pilot project for access to journal literature through an online catalog. Information Technology and libraries. 8,1; 1989, December; 371-83.

The university of California has run a three-year pilot project to provide access to biomedical and health sciences literature through the integration of part of the National Library of Medicine’s MEDLINE database into the University of California’s MELVYL online union catalog. This paper reviews the parallel but historically distinct approaches to providing access to monographic and journal literature and presents the MELVYL online catalog as the environment in which MELVYL MEDLINE operates. The pilot project itself is described, including its design, implementation, and evaluation date. Finally, the paper introduces some of the current planning efforts to mount additional databases as part of the MELVYL catalog.

Describes a manual SDI service provided by the Medical library of the Sheba Medical Centre, Israel and presents the results of evaluations. The service entails scanning the contents pages of 500 current journals received by the library and sending out written bibliographic lists to selected physicians, nurses, paramedical staff and researchers at the hospital. The service was first provided before on-line searching was available, and subsequently simultaneously with on-line facilities, and a small number of computerised SDIs. Early experience after the first few months of CD-ROM use in the library has not indicated a decreased demand or interest in the personalised manual SDI service, which focuses on material readily available in the library.

This article reports on an assessment of the effectiveness of medical subject headings terms for retrieving medical monographs in an online catalog and the potential of the unified medical language systems (UMLS) for improving the retrieval rate. A metacard is used, specifically a hypercard interface to the Metathesaurus. Assigning MeSH headings, retrieving bibliographic records, retrieving titles by MeSH terms, and comparing the metacard terms to bibliographic records are other topics discussed.

ARIOUSA, CHEMISTRY, ARIUSA.


ARIUSA, a personal generalised interactive microcomputer system of storage and retrieval of chemical information is described. This system with the drawings of molecular structures. Its performance is described with examples that shows the retrieval of references containing identical structures to the query molecule, substructures, superstructures and similar structures. This system is useful in the design of organic syntheses and in the search of structure activity studies.
192. KADEC (Sarah T) and JOVER (Antonio). Transfer of the National Institutes of Health (NIH)/Environmental Protection Agency (EPA) chemical information system (CIS) to private management. Information Services & Use. 5, 5; 1990, October; 259-68.

Describes the integrated system of 20 chemical and environmental data bases which make up the chemical information system. The system originated at the national institutes of health in the early 70s and was transferred to the environmental protection agency (EPA) in 1973. Other data files were funded by a range of US organisation but by late 83 it had become clear that the funding of these agencies was decreasing relative to the cost of the system. Transfer of the files to the public sector commenced in October 84 when Questel began making the files available commercially.

193. BRONSON (Roberta J). Two chemical dictionary files: CHEMLINE and CHEMID. Medical Reference Services Quarterly. 11, 1; 1992, August; 1-16.
Two chemical dictionary files resident on the national library of medicine's MEDLARS system, CHEMLINE and CHEMID, may assist users with any subject searches to be performed which deal with drugs, chemicals or pesticides. A brief search of either file will help the user to identify chemical abstract service, registry numbers, chemical synonyms, and other terminology which may be employed to construct a free-text search of another MEDLARS database or databank. Discusses uses and subtle differences between the 2 files.

194. KLIMLEY (S). Limitations of Science Citation index data in evaluating journals and scientists in geology. Finding and Communicating Geoscience Information. 29, 9; 1993, October; 23-31.

Science citation index data is frequently used to support theories on trends in the sciences, arguments on the quality of journals and as documentation for performance reviews. The use of SCI to evaluate aspects of geology is of particular concern because the scope of source documents used to generate SCI data excludes government and most geologic society publications, which form the basis of the geologic literature.
195. AMBA (S) and MEENAKSHI (R). Creation of a database of references using CDS/ISIS. Electronic library. 12, 4; 1994, August; 231-6.

CDS/ISIS was used to develop a database of references for publications of the central leather research institute. This database is to serve not only as a bibliographic tool but also as a component of an information system for management. The problems encountered in the development of the database are described in this paper.


CDS/ISIS information, a regular feature on the microcomputer program CDS/ISIS in the journal information development, reviews its progress for the tenth anniversary issue. The first version of CDS/ISIS, a library application which came out in 1985, aimed to support the interchange of bibliographic data between systems and between organizations and this was achieved through adherence to standardization. Although the future of CDS/ISIS could be affected by many factors, the software is
here to stay as long as people are using IBM personal computers and compatibles.

EVALUATION.


The trend towards integrated software packages using CDS/ISIS for information storage and retrieval is highlighted. Also highlighted are various guidelines on database management systems for efficient, effective information retrieval activities, as well as the role of CDS/ISIS for the proper utilization and management of database management systems. It is concluded that the integrated sets of CDS/ISIS and IDAMS software packages are compatible within databases and effective in the user community for the dissemination of information.

PERMUTED KEYWORD INDEX.


Describes a utility program designed to generate a permuted keyword index from a CDS/ISIS database. The different keywords which are used to describe the subject content of documents are
presented together in a string, thus showing the context in which the lead term is used. Indexes can also be generated for any repeatable field, such as author and report number. Pascal is the language used and a step by step tutorial is given to create the necessary databases.


This paper describes a computer-based Medical Test Planning System that performs automated planning and scheduling of medical tests. Automated planning has application in domains such as medical test planning can be characterized as a search of all possible combination of steps, with the resulting plan being one that transforms an initial state into a goal state. In most real world planning problems the number of possible combinations of steps is prohibitively large. Therefore, artificial intelligence search techniques are used to limit the number of combinations that must be considered to find a plan.

Describes the purpose and functions of the national centre for scientific information system (NACSIS) focusing on: NACSIS-CAT, a nationwide bibliographic network; the union catalogue of serials database; the library-network connection; NACSIS-IR; and international operation of NACSIS services. Discusses membership of NACSIS-CAT by Japanese university libraries.


Provides information about NISSAT’s (National Information Systems for science and technology) Objectives and organizational plan. Also describes are sectoral, regional and local information centers. The paper also discusses NISSAT’s activities and its contribution to the research and development scientist. The general NISSAT program sponsored by the department of science and technology is evaluated.
202. BALAKRISHNAN (MR). INIS: A computer based international nuclear information system. Advances in library and Information Science. 4, 2; 1993, August; 31-64.

This paper emphasizes nuclear information searches through computer based databases, which is more economic and less time consuming. The center (INIS) identifies scientific and technical literature published within India, along with input and output activities. The paper also investigates the conventional and non-conventional data in which IAEA is interested. Also provided is information about its liaison with other international databases through online and magnetic tapes.

203. BALAKRISHNAN (MR). INIS: A Computer-based international nuclear information system. Information Services and Use. 6,2/3; 1988; 51-73.

Print -on-paper data bases are not always as convenient to use as their computerised equivalents, nor are they as flexibles. Presents a description of a cooperatively produced system involving both hard-copy and machine-readable outputs, the International
Nuclear Information systems (INIS): Its history and organisation scheme, the INIS as more detailed accounts of its subject classification scheme, the INIS. Thesaurus, input standards, and the various products/services generated by the system: the printed INIS Ataninder and Cumulative Index, magnetic tape distribution service, the on-line data base and on-demand supply in micro-fiche of grey literature documents cited by INIS, through its clearing house. INIS database now contains more than 880,000 records. Coordination of the system is the responsibility of a secretariat coordination located at the vienna headquarters of the International Atomic Energy Agency.
PART THREE
INDEXES
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