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PUBLIC LIBRARY PROVISION
AND
DOCUMENTATION PROBLEMS

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**Papers for Discussion at the Ninth
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Edited by
S. R. RANGANATHAN



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PREFACE

The Executive Committee of the Indian Library Association decided that an attempt should be made to conserve the Conference-time for high level discussion. As a means to this end it was decided that the papers offered for discussion at the Conference should be printed in advance, so that the Conference-time may not be taken up with the formal reading of the papers but may be used fully for discussing the issues arising out of each paper. This proposal has been made possible by the Reception Committee at Indore generously agreeing to contribute towards the cost of printing the papers.

As agreed upon at an informal meeting of the Delhi Members of the Association, the Executive Committee suggested that the discussion at the Conference may be centered on a few related subjects rather than be dissipated. Accordingly papers were invited on the following three subjects: (1) Public Library Provision; (2) Documentation Problems; and (3) Academic Library Work.

The first subject was suggested by the urgent need to promote library legislation in each of the constituent States and at the Centre as a first step towards the development of a comprehensive library service, which is necessary to provide opportunity to one and all for perpetual self-education—recreation, information, and inspiration—so that the development of the country may proceed rapidly and along well-informed lines.

The second subject was proposed as it is now engaging world-attention and is of immediate and practical importance to India in view of the impending establishment of the National Documentation Centre and in order to examine the technique necessary to co-ordinate the research activities of the country and minimise wastage in the original investigations in progress.

The third subject was deemed expedient because our University Libraries have been comparatively well-organised for some years and have given rise to considerable experience and the need for discussing common problems. It was also believed that attention might be focussed on School Library Service also.

However no paper was received for the third symposium. Of the seven papers received for the first, only four received the approval of referees. Of the 21 papers received for the second symposium, 20 received the approval of the referees. These 24 papers will be found printed in this volume.

The thanks of the Editor are due:

- (1) to the authors of the papers for the trouble they had taken to write them out;

- (2) to the referees who found time to peruse the papers and give their advice;
- (3) to the members of the Publication Committee appointed by the Executive Committee for the help rendered in organising the topics for the symposium;
- (4) to Shri T. N. Koranne for preparing the index;
- (5) to Shri K. Mahalingam for preparing the press copy of the volume;
- (6) to the Reception Committee of the Ninth All-India Library Conference, Indore, for making this publication possible;
- (7) to the Associated Printers (Madras) Ltd., Madras, for the expeditious and excellent way in which the publication has been brought out; and
- (8) to the Editor of the *Libri* for permission to include Paper 212 in this volume.

Delhi University Library,
21 January 1951.

S. R. RANGANATHAN
Editor.

SYMPOSIUM I

PUBLIC LIBRARY PROVISION

PAPER 11

Library Organisation and the Constitution of India

S. R. RANGANATHAN

[Examines the Constitution of India (1949) for the articles and clauses which can form basis for library legislation, in the light of the emergence of the concept that library is an agency for universal perpetual self-education.]

0 Introduction

This is the first All-India Library Conference to be held after India was constituted into a Sovereign Democratic Republic. It is but proper that this conference should turn its thought on the position of public library service in our Constitution. I propose to search in the *Constitution of India* for explicit or implicit provision for the social institution for the perpetual self-education of all the citizens, which the library has become in modern times.

01 ECLECTICISM

The Constitution of India which commenced on 26 January 1950 is the latest of the written constitutions covering a considerable population. Its preamble is based on the Objectives-Resolution inspired by Mahatma Gandhi, the Father of the Nation, and moved in the Constituent Assembly by Pandit Nehru, our first Prime Minister. Its text has undergone critical examination by a galaxy of our patriots and legal luminaries. It is believed to have been drafted by Sri B. N. Rau, one of the greatest living jurists of the world. There is evidence that he did not draft it hastily. He based his draft on an exhaustive comparative study of the older constitutions of the world. It may therefore be expected not only to be eclectic but also to have gone ahead of the other known constitutions, in matters which are just emerging to conscious level.

02 EMERGENCE OF LIBRARY RIGHT

The right to library service is one such matter which is striving to be recognised in modern times. Here is an indication of the emergence of its recognition. The Sankey Committee on Fundamental Rights was the first to lift library service to the level of human rights. It mentioned that

"Every man is the joint inheritor of the powers, inventions and possibilities accumulated by our forerunners. He is entitled to mental development from birth to death.

"It is the duty of the community to equip every man with sufficient education to enable him to be as useful and interested a citizen as his capacity allows. Further it is the duty of the community to render all knowledge available to him. He shall have easy and prompt access to all information necessary for him".

This is equivalent to saying that Library Service is one of the fundamental rights of modern man.

03 URGE FOR MENTAL GROWTH

I wish to examine if the *Constitution of India* has been influenced by this first attempt to dig up from great depths and lay bare a fundamental right which is inherent in man viewed as a mental being—a being for whose joy mere physical well-being is not sufficient however necessary it is. Provision for perpetual mental growth is equally necessary. The urge for mental growth is no less compelling than the political urge for justice, liberty, equality and fraternity.

1 Seminal Element

"Equality of opportunity" is the seminal element in the preamble of the *Constitution of India* which can take care of this newly emerging fundamental right enunciated by the Sankey Committee. The phrase includes opportunity, not only for physical growth and well-being, but also equally for mental growth and well-being. Mental growth and well-being require opportunity for:

(1) enrichment of memory and, for this purpose, access to external aids to memory, like reference books and kindred materials embodying information;

(2) sharpening of intellect and, for this purpose, access to the nascent thought of the world in diverse regions of knowledge expressed in books, periodicals and kindred materials; and

(3) sublimation of emotion and release of intuition and, for this purpose, access to published materials embodying the sublime thought and biographies of high souls.

We have now to examine whether the articles of the *Constitution* make provision for the fulfilment of this objective, implied in the preamble.

11 DUTY OF THE LIBRARY PROFESSION

Naturally, in a Constitution Act of 395 articles augmented by seven schedules and occupying 251 pages, one should not expect equal thoroughness in respect of every matter which is implied in the preamble. Nor can one expect politicians, legislators and framers of Constitution to dwell consciously on all the remote

educational, scientific, cultural and spiritual implications of the preamble. It is for the several professions to spell out in detail the implications of the Constitution Act in their respective fields of interest. In particular it is for the Indian Library Association and the library profession of India to search the *Constitution*, locate in it the spots where the library function of the State lies latent, and work for its explicit embodiment in special library legislation. For as the saying goes: Only

The toad beneath the harrow knows,
Exactly where each pin point goes,

and it is the duty of those who have dedicated themselves to the library service of the Motherland to exploit the library potentialities of our new Constitution.

2 Possible Part to Mention Library Organisation

20 out of the 22 parts of the *Constitution* are fully pre-occupied—and it has to be so in a Constitution Act—with the several parts of the constitutional machinery and their respective functions. One possible way, in which the library and other specific functions of the State could be expected to be mentioned in these 20 parts, at least incidentally, is by way of distributing legislative powers between the Union and the States. This distribution is done by Article 246 of part 11 read with the clauses of the Seventh Schedule.

21 UNION LIST AND SANCTION FOR UNION LIBRARY BILL

Clauses 62 to 66 of the Union List in the Seventh Schedule enumerate the educational functions which fall exclusively to the share of the Government of India. These clauses deal with only specific institutions or classes of institutions. The term 'National Library' occurs in clause 62. Perhaps, in as much as libraries form in modern times an essential part of "institutions for higher education or research and scientific and technical institutions", clause 66, which exclusively entrusts to the Government of India the "co-ordination and determination of standards in such institutions", may be construed to cover also business libraries and libraries of the higher academic bodies. It is thus in clauses 62 and 66 of the Union List that we find authority for the Union Library Bill which the Indian Library Association has recommended for enactment by the Indian Parliament.

22 STATE LIST

Clause 12 of the State List in the Seventh Schedule mentions "Libraries". But here it is clubbed with Museums, Archives and Archaeological Remains. This is evidently a mechanical copy from the Government of India Act of 1935, which in its

turn was perhaps inspired by some British convention of the Victorian Age. According to this early nineteenth century convention, which has been allowed to smuggle itself into the *Constitution of India*, the primary social function of libraries was conservation of books and manuscripts and not the positive and purposeful promotion of their use by one and all of the citizens for their mental and spiritual betterment and thereby for their physical, political, economic and social well-being also.

221 SANCTION FOR STATE LIBRARY BILL

Clause 11 of the State List is more helpful. It brings education within the exclusive purview of the constituent States. If we accept the modern concept of a library system as a social institution designed to help the perpetual self-education of one and all of the citizens, library organisation gains considerably in status as it becomes part of educational organisation. These two clauses of the State List are the explicit sanction for the State Library Bill which the Indian Library Association has recommended to the State legislatures and which was put on the statute book by the Madras State though in a grievously mangled form.

3 Fundamental Rights

We have still to search in two more parts of the *Constitution of India*. It happens that part 3 which is devoted to fundamental rights makes no mention of right to education and therefore of right to any educational agency like a library system. As article 32 makes the fundamental rights justiciable and as the provision of educational agencies has to depend on the material and human resources available for the purpose, it cannot be complained that part 3 of the *Constitution of India* had not mentioned education and library service as fundamental rights.

4 Directive Principles

On the other hand the intention of the Constitution in this matter is unequivocally brought out in part 4 which gives the directive principles of State policy. Article 37 says, "The provisions contained in this Part shall not be enforceable by any court, but the principles therein laid down are nevertheless fundamental in the governance of the country and it shall be the duty of the State to apply these principles in making laws." (Italics are ours). Article 41, which falls in part 4, lays down explicitly the directive that "The State shall, within the limits of its economic capacity and development, make effective provision for securing the right... to education." In this article "education" should be interpreted in the widest sense so as to embrace the perpetual self-education of every adult, no matter what might be his age, mental capacity, educational attainment, vocation or

profession and economic or social status. It does not admit of being construed in the narrow conventional sense of 'formal education'.

For, Article 45, which follows and also lies within part 4, is exclusively devoted to education in that restricted sense. This article reads "The State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years."

5 International Declaration of Human Rights

Apart from the widening effect of Article 45 on the interpretation of the term "education" in Article 41, there is now a universal tendency to interpret that term as denoting a life-long process of the global development of personality in the physical, mental and spiritual planes. For example, Article 26 of the International Declaration of Human Rights reads "Education shall be directed to the full development of human personality." The original Geneva text of this article was even more explicit. It reads "Education will be directed to the full physical, intellectual, moral and spiritual development of the human personality". Development cannot reach fullness in childhood and adolescence. It continues throughout life. In accordance with this comprehensive current definition of the term "education," article 41 of the *Constitution of India* makes it a duty of the State to make laws to provide for effective agencies for education, not merely for the school-going age, but for all age-levels. For adulthood, the only known possible universal agency of education is a comprehensive country-wide Library System.

6 Tendency in Recent Constitutions

Recent constitutions have begun to mention library service even explicitly in the enumeration of fundamental rights in recognition of the current connotation of 'Education'. Here are some examples. The relevant articles are quoted:

1. Japan (1947). "Art. 14. Adult education should be promoted rapidly by the use of all suitable facilities such as... libraries."

2. Germany—French Zone. Baden (1947). "Art. 31. (1). State assistance shall be given to adult education by means of... scientific and popular libraries."

3. —Rhineland—Palatinate (1947). "Art. 37. Popular education including public libraries shall be encouraged by the states and local authorities."

4. —Württemberg—Hohenzollern (1947). "Art. 118. (1). The State shall promote adult education, especially by means of... public libraries."

5. —U.S.A. Zone. Breman (1947). "Art. 35. Public institutions shall afford all adults an opportunity for further education."

6. Saarland (1947). "Art. 32. The State and the local authorities shall encourage adult education including public libraries."

7. Romania (1948). "Art. 23. The State encourages and supports development of...libraries."

8. Bulgaria (1947). "Art. 80. The State cares for the development of science and art by establishing...libraries."

9. United States of Brazil (1947). "Art. 143. It shall be the duty of the State (a) to foster and encourage the establishment of public libraries in municipalities."

10. Amazonas (1947). "Art. 124. The State, acting through the State Council for Education, shall promote and facilitate... VIII The establishment of public libraries."

11. Mato Grosso (1947). "Art. 129. The State and the municipal authorities shall promote and encourage the establishment of public libraries."

12. Minas Gerais (1947). "Art. 135. The State shall promote and encourage the establishment of public libraries."

13. Paraíba (1947). "Art. 119. The State shall promote and encourage the establishment and maintenance of public libraries."

14. Parana (1947). "Art. 110. The State shall organise its system of education in accordance with the principles of the Federal Constitution, and shall in particular...XI Establish specialised public libraries at municipal centres."

15. Rio Grande Do Norte. (1947). "Art. 121. It shall be the duty of the State...II To encourage and promote the establishment and maintenance of public libraries."

16. Rio Grande Do Sul (1947). "Art. 193. The State shall further be responsible...V To encourage and promote the establishment of public libraries."

17. Santa Catarina (1947). "Art. 185. The State and the municipalities shall promote and encourage the establishment of public libraries."

18. Sergipe (1947). "Art. 164. It is the duty of the State and the municipalities...to encourage and promote the creation of public libraries."

7 Cutting the Vicious Circle

The only deterring factor anticipated by Article 41 of the *Constitution of India* is "the limits of economic capacity and development". It is here that the library profession has to plead

with the statesmen of the country that the very increase of the economic capacity and the very development depend upon better informed and better educated citizenship. A vicious circle thus gets formed. We do not see any way of this circle being cut except by straightaway providing for the progressive establishment of a comprehensive library system as an agency for universal perpetual self-education.

71 STATE-WIDE LIBRARY-GRID

Moreover the provision of free and compulsory education for all children before 1960, as article 45 directs, will become as wasteful as a mud house without roof, if it is not supported by a nation-wide library system to provide for the follow-up of school education, all through life. It is only if each State enacts the necessary library law even now, and implements a well-thought-out library development plan so as to build up a State-wide library-grid before 1960, that the nation can eliminate educational wastage and have the true benefit of free and compulsory education.

72 CONSERVATION OF SOCIAL EDUCATION

It is very gratifying to find that the State is providing for the development of social education and universal literacy. But it is the duty of the library profession, here too, to administer the warning that unless the development of a nation-wide net of libraries keeps pace with the spread of social education, the results of social education will become evanescent and end in a huge national wastage. Here again the phenomenon of roofless mud house will set in. Social education must be conserved by comprehensive library service.

73 APPEAL

It is on these grounds that the Indian Library Association appeals to the Union and each of the constituent States of the Sovereign Democratic Republic of India to take up immediately enactment of eclectic library laws and the implementing of the same. The *Constitution of India* allows it, directs it and expects it.

Library Organisation in the Bombay State

R. S. PARKHI

[Traces the history of the public library organisation of Bombay State, describes its present structure, and advocates library legislation.]

1 Committee Appointed in 1939

It was in 1939 that, through the good offices and leadership of the Premier Hon'ble Shri B. G. Kher, the Government of Bombay appointed a Committee for exploring the possibilities of the establishment of a State Central Library in Bombay as well as three Regional Libraries at Ahmedabad, Poona and Dharwar. The Committee surveyed the then condition of libraries in the State and examined the possible lines of future development. They suggested a scheme for the progressive building up of a library service which would encourage and keep pace with the spread of education and literacy.

II RECOMMENDATIONS

The following were the recommendations of the Committee in brief:—

(1) To establish a Central Library in Bombay whose management should be entrusted to the Bombay Branch of the Royal Asiatic Society;

(2) The collection of copyright books other than Marathi, Gujarathi and Kannada to be kept in the Central Library and made available to the public for reference within the library premises;

(3) To establish Regional Libraries at Ahmedabad, Poona and Dharwar;

(4) To entrust the copyright books in Gujarathi, Marathi and Kannada languages to the care of the respective regional libraries; and

(5) The Central Library to develop a comprehensive library service in the State.

12 Six Stages.

Stage 1. Formation of the Central Library and the three Regional libraries.

Stage 2. Establishment of District Libraries at the district headquarters.

Stage 3. Establishment of Taluka and Peta libraries.

Stage 4. Establishment of libraries in villages with population between 2,000 and 5,000.

Stage 5. Establishment of libraries in villages with population between 1,000 and 2,000.

Stage 6. Establishment of Libraries in the remaining villages.

Thus at the end of these six stages, it is expected that there will be a net-work of libraries throughout the State of Bombay.

13 EFFECT OF WAR

The scheme was published by the Government in 1941. But it could not be implemented on account of the Second World War.

2 Implementing in 1946

Since the transfer of power in 1946, the Government has begun to implement this scheme step by step.

In 1947-48 the Central Library and the three Regional Libraries were established in Bombay, Dharwar, Poona and Ahmedabad respectively.

Under the Post-war Reconstruction Scheme, the Government initiated stages 2 and 3 during the years 1948-49 and 1949-50 and established district and taluka and peta libraries as follows:—

<i>Region.</i>	<i>District libraries. Taluka and Peta libraries.</i>	
Maharashtra	13	105 out of 132
Gujarat	10	60 out of 98
Karnatak	4	34 out of 46

21 GOVERNMENT GRANT-IN-AID

The following is the scheme of annual Government Grant:—

Central Library	..	Rs. 30,000
A Regional Library	..	„ 10,000 to 13,000
A District Library	..	„ 4,000
A Taluka or Peta Library	..	„ 450

There is a general condition that these libraries should collect from private sources an amount at least equal to the amount of the government grant.

22 LIBRARY STAFF

Each regional library has been sanctioned the following staff:—

1 Librarian; 1 Accountant; 2 Clerks; and 2 Peons.

23 ADVISORY BOARDS

One Central and three Regional Advisory Boards were formed during the year 1949-50.

231 Concurrent Functions

The following functions are common to the Central and the Regional Advisory Boards in regard to the libraries in their respective areas :—

1. To work out the details of a scheme of co-operation between libraries;
2. To audit the accounts of the libraries;
3. To ensure that the grants are properly spent;
4. To find out the need for additional grants;
5. To ensure that proper standards are maintained in regard to purchase, classification, cataloguing and service to readers of reading and kindred materials; and
6. To ensure that buildings, fittings and furniture conform to proper standards.

232 Special Functions

The following are the special functions of the Central Advisory Board :—

1. To supervise the library development in the State as a whole;
2. To frame rules, conditions, etc. regarding free access to libraries and inter-library loans and allied questions; and
3. To make arrangements for and give the required training to those desiring to join the library profession, in co-operation with the Library Association, the University and the Central Library.

24 THE CURATOR AND THE ASSISTANT CURATORS

(1) The Curator is the Chief Organizer of the whole scheme and acts as the Secretary of the Central Advisory Board. The Assistant Curators similarly look after the Taluka and Peta libraries under the general direction of the Curator. They are *ex-officio* members of the Central and the Regional Library Committees respectively.

25 VILLAGE LIBRARY SCHEME

Under the scheme of Social Education, the Government have established 3,300 village libraries each of which gets Rs. 18/- annually as grant-in-aid on condition that the village receiving this grant collects an equal amount locally. Rural travelling libraries are also contemplated.

26 TOTAL ANNUAL EXPENDITURE

The total annual expenditure provided by the Government on the organisation of these various libraries is roughly as follows:—

	Rs.
(1) Central Library ..	30,000
(2) Office of the Curator ..	15,000
(3) Three Regional Libraries ..	39,000
(4) 27 District Libraries ..	1,08,000
(5) 200 Taluka and Peta Libraries ..	90,000
(6) 3,300 Village Libraries at Rs. 18/- each.	59,400
(7) Circulating Libraries ..	20,000
(8) Office of the Assistant Curators ..	20,000
(9) T. A. to Officers ..	7,000
Total	<u>3,88,400</u>

3 Library Legislation

It remains to be considered how this organisation will be able to cope with increasing demands in respect of finance and efficiency in service. It is high time for the authorities to consider whether library legislation is necessary for the State or not. Without legislation it won't be possible for the Government to meet adequately the increasing financial demands of these various libraries. The legislation should empower municipalities and local boards to raise library rate according to the needs of individual areas and the State should give grants equal to the amount raised by library rate. This will permanently solve the most important problem of finance. Under the legislation, the State should also provide an adequate amount for the maintenance of the Central Library of the State. In the Library Bill prepared by Dr. Ranganathan for the Bombay State, provision is made for finance along these lines and the Minister of Education is made the State Library Authority with a Director of Libraries to supervise the work of all the Local Library Authorities in the State, to manage the State Central Library, to deal with all matters of Copyright Act, and to centralise all technical work such as acquisition, classification, cataloguing and co-ordination of the service and maintenance of reading materials in the public, academic, departmental and outlier libraries in the State. The bill gives all the details required for organising a net-work of libraries throughout the State.

31 APPEAL TO AUTHORITIES

Even before legislation is brought into effect, it is advisable to unify all library activities and finance under the Curator of Libraries. The Central Advisory Board and the three Regional Advisory Boards will not function well as the members on these boards have no direct interest in the various local libraries. It is therefore necessary to have Local Library Authorities as is provided in the Library Bill of Dr. Ranganathan. The members of these Authorities will appoint Local Library Committees. At present the municipalities and local boards have completely neglected the problem of libraries in their respective areas. The Library Act will compel them to raise money by way of library rate and provide adequate library facilities to one and all of the citizens in their respective areas. The ministers and legislators concerned should give serious thought to this vital problem of library legislation and put the library movement in the State on a sound footing.

Development by Demonstration

EDWARD SYDNEY

[A brief outline of the British Council's Eastern Caribbean Regional Library Service and its evolution since the first survey by Dr. Savage in 1933.]

1 Introduction

My authority to contribute this brief outline to the symposium lies in the experience gained in 1947 when the British Council invited me to survey their Eastern Caribbean Regional Library Service, which had been in operation for seven years, and which had been taken over by the Council on 1 January 1945, from the Carnegie Corporation of New York. As this outline is necessarily written from memory, it will lack many definite statistical details of progress in the field to date, and of financial provision. Nevertheless it is hoped it will provide some information of interest to the Conference, high-light a few principles, and serve as a basis for discussion. Full details of development have been requested from the British Council in London and it is expected these will be available for use as an introduction to this paper at the Conference.

11 DEVELOPING DEMOCRACY

The title *Development by demonstration* has been used because it is necessary in these times to emphasise the fundamental historical process of all public library development, especially in those parts of the world where the service has been free to respond to the needs of developing democracies. Where, indeed, it has had its genesis in the minds of a few far-sighted leaders who understood the needs of many ordinary citizens who desired to change and improve their ways of living; who wished to make a fuller, a more active, and a more responsible contribution to the society in which they lived; who were anxious to understand the changes taking place around them locally, and nationally and even internationally; to appreciate their new and strange privileges and to discharge their responsibilities, civic, social, economic and political. And lastly, but by no means least, to develop themselves as human beings to their fullest capacities, and to integrate themselves as happily and as successfully as they could in a community in flux.

12 STATIC SOCIETY

Static societies, or those which change but slightly and slowly, evolve traditions, patterns, institutions and processes to meet their relatively simple needs for information, the communication

of skills, for the enjoyment of life, and the government of their communities. But once a desire to expedite change begins to leaven the community or it is necessary to adjust the nation to a new situation, certain new necessities and demands inevitably emerge. Firstly, there comes the need for an increase of all educational provision and formal training at all stages and in infinite variety; secondly, the need for a rapid development of all media of communication of ideas and information; and thirdly, the setting up of centres all over the country where ideas and information can be collected, preserved, and made available to all citizens according to their needs and inclinations.

13 STAGES IN PROGRESS

Education and training rapidly become a function of the State and the professional and technical associations, for on the provision of an adequate number of educated and trained personnel depends the success of government, administration, industry and commerce. For the purposes of education and training books, periodicals etc. must be compiled, published, sold to those who can afford to buy them, and collected together in universities, schools, in specialist scientific and technical institutions and at the headquarters of professional associations. All these have imperatives behind them and quite definite vested interests concerned with their quality and adequacy, and they always have been and they always will be provided in some measure by almost every country in the world. The extent of the provision depends on many factors too numerous to mention here and it should be sufficient to say that a highly industrialised, politically advanced country such as the U.K. requires a much greater provision of education and all educational and informational media than a country entirely dependent on a rural economy. There are, of course, many stages in between these two extremes, all of which have been passed through in the process of social, commercial, industrial and political development in the U.K. and other countries of the West. Not always has the progress of provision been uniform, efficient or adequate. but it has had to be made somehow and to some extent. The necessities of leadership, authority, responsibility, and effective control, administration, and operation have had to be met.

14 ACT OF FAITH

It is when we come to the provision of public libraries paid for out of the joint purse of the community that a new set of factors comes into the field; factors which are not immediately understood or appreciated by responsible authority or by the common people for whom the libraries are established. That the educationist requires textbooks, the lawyer his law books, the

scientist his formulae and the technician his treatises is obvious to most people, even to people who perform none of these functions, and ways and means of providing them have always been found. But a belief that an adequate and efficient public library service to the ordinary man in the street is also a national necessity brings into play imponderables not assessable in annual balance sheets, in easily discernible records of achievement, in dividends, nor by any normal method of estimating the value of a social instrument's contribution to the community it serves. Initially the establishment of a public library service is an act of faith, based on certain beliefs arising from a deep understanding of the hopes and fears, needs and desires of the ordinary citizen; and secondly, a conviction that democracy prospers best and quickest where the ideas and information necessary to a full participation in the life of a society are freely and easily available to all individuals.

15 DANGERS IN DEMOCRACY

One of the beliefs before-mentioned is, for example, that education is a life-long process, and that the preliminary training a man receives right up to graduate standard, is only a preparation for a course of life-long development of which he is himself, to a large extent, the architect and the builder. A second belief is that intelligent men in all walks of life cannot be prevented from using their intelligence. The frustration of intelligence and its use on ideas of low quality are two grave dangers in an evolving democracy, and therefore it is wise to provide ample opportunity whereby intelligent men can use their minds on the best ideas the world can provide. And thirdly, and this must suffice in the meantime for you are all aware of many other reasons, a profound belief in the desire of men to fulfil their destinies to the fullest extent of their capacities.

16 DEVELOPMENT OF LIBRARY SERVICE

A public library service is one only of many agencies which make and mould men's lives and minds and it has to fight, amongst all other claims made on the interest of authority and the money available, for the finance and the opportunity to demonstrate its full effect. This effectiveness has never been conceded and the whole history of public library service in the West is a record of development by demonstration. Somehow, through the influence of men of goodwill and understanding, a service has been started and gradually, by the efficiency of its contribution and by its adaptability to changing times and needs, popular support has been secured, and the opportunity and finance made available for a continual widening of its influence. Nowadays the most highly developed services touch the life of the community in an amazing variety of ways.

2 Carnegie Corporation of New York: Savage Report

21 SAVAGE'S SURVEY

The growth of public library service in the U.K., U.S.A., and elsewhere in the West owes much to the late Andrew Carnegie and the two charitable trusts which he established to carry on his work after his death, the Carnegie Corporation of New York and the Carnegie United Kingdom Trust. It was in carrying out the policy laid down by the founder that in 1933 the Carnegie Corporation of New York invited Mr. E. A. Savage, City Librarian of Edinburgh, to visit the Caribbean and survey the library resources and services of the whole of the British colonies of that area. Out of this survey came the Savage Report and into that Report went the wisdom of an expert practising public librarian, with many years of experience of growing library services in Croydon, Coventry, Edinburgh and elsewhere. From this experience had emerged a truth—you cannot force public library service on authority nor on the people. The most you can do is to persuade them to give you the opportunity to demonstrate the usefulness of the service, and build on the acceptance thereby obtained.

22 LIMITED EXPERIMENT

Therefore Mr. Savage recommended a limited experiment on one island in the Eastern Caribbean. If this was successful it should serve as a centre from which the service could be extended to the other colonies and islands of the area, much in the same way as a U.K. county library establishes centres in small urban areas, distributes boxes of books to rural villages, and takes books to the country people in book vans. The whole service was to be linked by a union catalogue, by interchange of book stocks, and special services to individual students, study groups and institutions.

3 The Eastern Caribbean

The conditions in the Eastern Caribbean were certainly unusual and not propitious. Literacy was at a very low level and standards of living no better. The area was spread over a chain of small islands, approximately 800 miles from end to end, many of which had been separately governed but were now grouped into the Leeward Islands, the Windward Islands, Trinidad and Tobago, Barbados, and British Guiana on the South American Mainland. The distances between the islands and the paucity of inter-island communications had led to an age-long parochialism and isolationism. With the exception of the Trinidad oilfields and pitch lake the economy was almost entirely rural and domestic. No island could afford to maintain an adequate and efficient popular

public library of its own and all resented domination from any other island. All the major islands and British Guiana had a library service of some kind in the principal towns maintained by membership subscriptions and by subventions from the island government. Some of these institutions are now more than one hundred years old, but in 1933 only Bridgetown, Barbados and Georgetown, British Guiana were public libraries in that their services were freely available to all citizens including children. Some of them had received gifts of money for books and buildings from Andrew Carnegie but in 1933, with the possible exceptions of Bridgetown and Georgetown, the book stocks were poor and limited, and their main work was the circulation of popular magazines amongst the subscribers. One of the first results of the Savage Report was a number of gifts of money to the various libraries, from the Carnegie Corporation, to add to their book stocks, and on the occasion of my visit in 1947 it was these books which gave most of the collections any title to be called a working library.

4 Eastern Caribbean Regional Library Service

The island recommended by Savage for the demonstration was Trinidad, and the Carnegie Corporation, after securing the consent of the Colonial Office in London and the Trinidad Government, set aside \$80,000 for the purpose. By the time all formalities had been gone through the Second World War had begun and it was not until early 1940 that Dr. Helen Gordon Stewart, the appointed director, set up office in Port of Spain, Trinidad. No better appointment could have been made; for Dr. Stewart was a Canadian and a pioneer by temperament and training, with the founding of the Fraser Valley Rural Library Scheme, British Columbia, and much other good work to her credit.

41 TRINIDAD LIBRARY SERVICE

It had been expected that the new service could be centred on the already established Port of Spain (Subscription) Library, but this was not found possible and a separate organisation had to be set up.

The war made any attempt at regional development impossible, and except for a tour of the islands to survey the library services and to acquaint responsible authority with the purpose of her office, Dr. Stewart concentrated on building up a rural service to the islands of Trinidad and Tobago.

42 PROFESSIONAL PERSONNEL

With the exception of one lady librarian in Bridgetown, Barbados, who had spent some time in England, none of the

personnel had any professional training or experience of modern public library work, and one of the first essentials was to select suitable persons of sufficient educational background who would make librarianship their career and mission in life to be sent abroad for training and experience. These people were to be the leaders of the future library service, and with the help of Colonial Development and Welfare, the Trinidad Government and the British Council certain individuals who were either acting or potential librarians were sent to the Toronto University Library School (2) and to the U.S.A. and the U.K. for training and practical experience (3). In addition to this Dr. Stewart organised schools for beginners, usually of six months' duration, at the headquarters in the Port of Spain. Travel expenses and maintenance were paid from the library funds. The recruits were drawn from the various islands and after training were generally returned for service in their local libraries. These schools of elementary training have been continued and the British Council still provides opportunity for senior personnel to attend schools of librarianship in the U.K. One danger of school training at beginners' standard must be emphasized. In areas where employment for educated young persons is scarce it is easy to obtain recruits for elementary training, but the school's intake must be strictly limited to their post-training opportunity in library service, and the salaries offered in those libraries of a sufficiently good grade, in comparison with other services, to persuade the recruit to stay in the profession and make it his or her career. Otherwise wastage through frustration is high and the schools become an expensive method of securing entrants.

43 THE FIRST FOUR YEARS 1940-44

The collecting together of carefully selected bookstocks in the Port of Spain headquarters, their classification, cataloguing, and processing for public use, the training of staff, the setting up of village centres and the organisation and operation of book-van routes throughout the island of Trinidad proceeded with remarkable expedition and success, and by the middle of 1944 the Trinidad Government had been so persuaded of the value of the service that it accepted responsibility as from 1 January 1945 and made financial provision for its maintenance. Considering all the factors the public response to the service had been extraordinary and revealed a widespread need.

5 The British Council

During the summer of 1944 it was decided by the Colonial Office that the future development of the Regional Service as distinct from that of Trinidad should be taken over from the Carnegie Corporation and become the responsibility of the British

Council for a period of five to ten years, by which time it was hoped the service would be firmly established and the Governments of the area prepared jointly and severally to assume complete responsibility. Therefore Dr. Stewart was called to London in 1944 to submit her plans for the regional extension when the war ended, and she was appointed director of this service, in the employ of the British Council as from 1 January 1945. She was to begin operations outside Trinidad as soon as conditions permitted, but in the meantime, and pending the training of her successor as Director of the Trinidad Library, she continued in control of both services. A library ordinance giving legal sanction to the library was approved by the Trinidad Government in 1947 or 1948.

As soon as the war ended Dr. Stewart began operations outside Trinidad, but during the interim she was busy collecting the book stocks and processing them for the demonstrations she proposed to hold in the various island towns.

6 The Technique of Demonstration

It will be remembered that a number of the principal towns in the islands had long-established public (subscription) libraries and Dr. Stewart began operations in 1945 by persuading the Governors of the St. John's Antigua Library to co-operate by providing accommodation in their library for a demonstration of public library service. The service was to be distinct from the normal subscription facilities, though the subscribers could use the public service. Shelving was lent by the Governors and adapted for open-access, but all other books, equipment and staff were lent by the Regional Library for an experimental period, which at the time of my visit early in 1947 had been in action for twelve months. During this period the service had been extended to rural areas of the island by means of a truck borrowed from the Public Works Department. This truck was loaded with five or six converted ammunition boxes filled with books, and accompanied by members of the staff made weekly visits to two or three villages, stopping in the centre of the village for an hour or two.

If the experiment was not considered successful at the end of a given period, and this tended to be undetermined, and the Library Governors were not prepared to take it over nor the Island Government to provide the finance to maintain and improve it, then all books, equipment, staff, etc. were to be returned to the Trinidad headquarters. So far as I know this has never happened. As the St. John's demonstration was the first it was fortunate for the future of the Regional Library that in March 1947 the Governors did decide to take over the

service and petitioned the Government to find the money. On the conclusion of the demonstration all the books and equipment were given to the Library under certain conditions, and the Regional Library agreed to continue to build up the book stock and give much other assistance. Individual books were to be lent, on demand from the Region, for loan to other libraries, and all stock, including that of the subscription library when considered useful, to be indexed in the union catalogue. During the period of the demonstration the stock of the subscription library was carefully examined, recommendations for discords made, and all works considered useful for retention classified and catalogued both for the local and regional catalogues.

Such in broad outline was the procedure of "demonstration" and early in 1947 similar experiments were in operation at Basseterre, St. Kitts, Charlestown, Nevis, Castries, St. Lucia, Anguilla, and requests had been received from Grenada and other islands for a similar service. Indeed the Grenada Library under the wise guidance of Lady Griendle, the wife of the Governor of the Windwards, and the Education Officer had decided already to transform themselves into a public library.

7 Achievement

In conclusion what were the achievements to be recorded in library service in the Eastern Caribbean as a result of seven years' demonstration (1940-46) by the Carnegie Corporation and the British Council? Briefly:—

- (1) A large stock of up-to-date useful books in a region were more than it had been before.
- (2) The nucleus of a trained staff of professional librarians to make these books work.
- (3) Thriving public libraries in Barbados, Trinidad and British Guiana, and the beginnings of acceptance of public library service in four other islands.
- (4) The commencement of a union catalogue of all the book resources of the area. A marvellous tool in itself.
- (5) A growing recognition that self-sufficiency in the ideas and information service was a delusion, and that co-operation was essential.
- (6) That it was possible to co-operate without being dominated, dictated to or absorbed.
- (7) A great window on to "Man's unconquerable mind" had been opened to every man who cared to look through it.

Data for Study of Library Legislation

K. D. PURANIK, S. P. PHADNIS AND M. K. MUKHERJEE

[Tabulates the nature of Library Authorities and the Library Rates in some of the countries and in each of the constituent States of the U.S.A. where library provision falls in the jurisdiction of the constituent State].

In view of the impending library legislation in the constituent States of India, where library provision falls within the jurisdiction of the constituent States, the practices prevailing in the United Kingdom, the Irish Free State, Australia and the U.S.A. have been digested in the following tables. The sources for information are:

- (1) SANDERSON (Charles Rupert): Library law.
- (2) FOUTTS (James C.). *Ed.*: American library laws. Edn. 2.
- (3) AMERICAN LIBRARY ASSOCIATION. Bulletin V. 37. 1943.

Statement 1

COUNTRIES OTHER THAN U.S.A.

Library Authority

Library Rate

No rate limitation.

1. County: County Council
2. City of London: Common Council
3. Metropolitan Borough: Borough Council
4. County Borough: Borough Council.
5. Urban District: The Urban District Council
6. Rural Parish: Parish Council or Library Commissioners

Maximum is 2½ pies in one rupee.

2½ pies in one rupee.

1 pie to two pies in one rupee.

SCOTLAND

IRISH FREE STATE

NORTHERN IRELAND

SOUTH AFRICA

Committee appointed by the County Council.

Public libraries of South Africa are maintained by subscription.

<i>Name of the State</i>	<i>Library Authority</i>	<i>Library Rate</i>
AUSTRALIA:		
QUEENSLAND		
Urban	No legislation	
Rural	Municipal councils are at liberty to make bye-laws for public libraries.	
	Divisional Boards are at liberty to make bye-laws for public libraries.	
NEW SOUTH WALES	No legislation.	
	Public libraries receive grants from government.	
VICTORIA	No legislation.	
	Libraries receive grants from government.	
SOUTH AUSTRALIA:		
Urban	Municipal council	2½ pies in a rupee.
Rural	District council	2½ pies in a rupee.
NEW ZEALAND:		
Urban	Local Body	1 pie in a rupee plus equal amount as Govt. grant.
Rural	"	"

Statement 2

URBAN LIBRARY AUTHORITIES IN U.S.A.

(1) The Local Bodies are the Urban Library Authorities in the following 5 States:

- | | |
|----------------|------------------|
| 1. Maine; | 4. Virginia; and |
| 2. New Mexico; | 5. Wyoming. |
| 3. Texas; | |

(2) The Local Bodies are the appointing authorities of the Urban Library Authorities in the following 12 States:

- | | |
|---|---------------------|
| 1. Alabama; | 6. Maryland; |
| 2. Arizona; | 7. Mississippi; |
| 3. Idaho; | 8. North Carolina; |
| 4. Indiana (only for municipalities with population above 4,000); | 9. Pennsylvania; |
| | 10. South Carolina; |
| | 11. Tennessee; and |
| 5. Louisiana; | 12. Utah. |

(3) The Mayor, President or Chief Executive Officer appoints the Urban Library Authorities in the following 20 States:

- | | |
|--|---------------------|
| 1. Arkansas; | 10. Missouri; |
| 2. California; | 11. Montana; |
| 3. Colorado; | 12. Michigan; |
| 4. Illinois; | 13. New Jersey; |
| 5. Indiana (only for municipalities of 3,500 to 4,000 population); | 14. New York; |
| | 15. Ohio; |
| 6. Iowa; | 16. Oklahoma; |
| 7. Kansas; | 17. Oregon; |
| 8. Kentucky; | 18. South Dakota; |
| 9. Minnesota; | 19. Washington; and |
| | 20. Wisconsin. |

(4) The Local Bodies elect the Urban Library Authorities in the following 6 States:

- | | |
|-------------------|----------------------|
| 1. Georgia; | 4. New Hampshire; |
| 2. Massachusetts; | 5. Rhode Island; and |
| 3. Nebraska; | 6. Vermont. |

(5) The taxpayers elect the Urban Library Authorities in the following 3 States:

1. Connecticut;
2. Florida; and
3. Indiana (only for towns).

(6) The School Boards or Trustees or Boards of Education appoint the Urban Library Authorities in the following 2 States:

1. Nevada; and
2. North Dakota.

Statement 3

RURAL LIBRARY AUTHORITIES IN U.S.A.

(1) The Governor of the State appoints the Rural Library Authority in Florida.

(2) The Local Bodies appoint the Rural Library Authorities in the following 18 States:

- | | |
|----------------|---------------------|
| 1. Alabama; | 10. Mississippi; |
| 2. Arizona; | 11. New York; |
| 3. California; | 12. North Carolina; |
| 4. Colorado; | 13. Pennsylvania; |
| 5. Illinois; | 14. South Dakota; |
| 6. Indiana; | 15. Utah; |
| 7. Kansas; | 16. Washington; |
| 8. Maryland; | 17. Wisconsin; and |
| 9. Minnesota; | 18. Wyoming. |

(3) The Local Bodies are themselves the Rural Library Authorities in the following 3 States:

1. Montana;
2. Nebraska; and
3. Oklahoma.

(4) County Courts appoint the Rural Library Authorities in the following 7 States:

- | | |
|--------------|---------------|
| 1. Arkansas; | 5. Tennessee; |
| 2. Kentucky; | 6. Texas; and |
| 3. Missouri; | 7. Virginia. |
| 4. Ohio; | |

(5) County Boards of Education are the Rural Library Authorities in the following 2 States:

1. Georgia; and
2. New Mexico.

(6) The Boards of Education appoint the Rural Library Authorities in the following 3 States:

1. Michigan;
2. Nevada; and
3. South Carolina.

(7) The Board of Chosen Free-holders appoints the Rural Library Authorities in the following State:

New Jersey.

(8) No appointing authority is mentioned for the following 2 States:

1. Oregon; and
2. Iowa.

Statement 4

LIBRARY RATES IN URBAN AREAS IN U.S.A.

(1) The States in which library rates are upto one-fifth pie per rupee are:

1. Arizona (in cities above 10,000 population);
2. Arkansas;
3. Indiana (in cities of 3,500 to 4,000 and of 50,000 to 200,000 population);
4. Iowa;
5. Kansas;
6. Maryland;
7. Missouri (in cities of over 100,000 population);
8. Nebraska (in second class cities);
9. New Jersey;
10. North Carolina;
11. Utah (in first class cities); and
12. Wisconsin.

(2) The States in which library rates are one-fifth pie to two-fifth pie per rupee are:

1. Arizona (in cities of less than 10,000 population);
2. Colorado;
3. Illinois;
4. Indiana;
5. Kentucky (in cities of third, fourth, fifth and sixth class);
6. Michigan;
7. Minnesota;
8. Nebraska;
9. Nevada;
10. New York;
11. New Mexico;
12. Ohio;
13. Oklahoma; and
14. Utah (in cities of second class).

(3) The States in which library rates are two-fifth pie to three-fifth pie per rupee are:

- | | |
|--|--------------------------|
| 1. California (in cities of first, second and third class); | 6. Oklahoma; |
| 2. Florida; | 7. Pennsylvania; |
| 3. Missouri; | 8. Rhode Island; |
| 4. Montana (in cities having property of valuation above 750,000 dollars); | 9. South Carolina; |
| | 10. South Dakota; and |
| 5. New York (in cities cities). | 11. Utah (in third class |

(4) The States in which library rates are three-fifth pie and above per rupee:

- | | |
|--|--|
| 1. California (in fourth, fifth and sixth class cities); | 4. Montana (in cities having property of valuation below 750,000 dollars); |
| 2. Connecticut; | 5. North Dakota; and |
| 3. Kansas (in Townships); | 6. Tennessee. |

(5) The States in which library rates are not specified:

- | | |
|---------------------------------------|-------------------|
| 1. Georgia; | 4. Massachusetts; |
| 2. Kentucky (in second class cities); | 5. Mississippi; |
| | 6. Virginia; and |
| 3. Maine; | 7. Vermont. |

OTHER TYPES

1. Alabama: Five and a half annas per capita to be paid out of the general fund of the county;
2. Louisiana: Special tax may be levied with the approval of the taxpayers;
3. New Hampshire: Thirty dollars, for every dollar of public taxes apportioned to the town;
4. Oregon: Appropriation from general funds;
5. Texas: Appropriation from general funds;
6. Washington: Tax levied as required; and
7. Wyoming: No special tax.

Statement 5

LIBRARY RATES IN RURAL AREAS IN U.S.A.

(1) The States in which library rates are upto one-fifth pie per rupee are:

- | | |
|--------------|---------------------|
| 1. Colorado; | 9. New Jersey; |
| 2. Illinois; | 10. North Carolina; |
| 3. Indiana; | 11. Ohio; |
| 4. Iowa; | 12. Oklahoma; |
| 5. Kansas; | 13. South Dakota; |
| 6. Kentucky; | 14. Texas; and |
| 7. Maryland; | 15. Wyoming. |
| 8. Michigan; | |

(2) The States in which library rates are one-fifth pie to two-fifth pie per rupee are:

- | | |
|----------------|-------------------|
| 1. Arizona; | 6. Montana; |
| 2. California; | 7. Nebraska; |
| 3. Florida; | 8. New York; |
| 4. Minnesota; | 9. Tennessee; and |
| 5. Missouri; | 10. Utah. |

(3) The States in which library rates are two-fifth pie to three-fifth pie per rupee are:

- | | |
|----------------------|--------------------|
| 1. Pennsylvania; and | 2. South Carolina. |
|----------------------|--------------------|

(4) The States in which library rate is not specified are:

- | | |
|--------------|---------------------|
| 1. Arkansas; | 3. Mississippi; and |
| 2. Georgia; | 4. Virginia. |

(5) Peculiar cases:

1. Alabama: Appropriation of funds from the County Treasury;
2. Nevada: Rs. 7,500 to be appropriated;
3. New Mexico: Appropriation from general funds;
4. Oregon: Appropriation from general funds;
5. Washington: Tax levied as required; and
6. Wisconsin: Rs. 5,000 to be appropriated.

Statement 6

PER-CAPITA EXPENDITURE IN SOME CITIES IN U.S.A.

(a) Public libraries serving more than 200,000 population.

City	Per capita Expenditure		
	Rs.	as.	ps.
1. Akron, Ohio	3	14	0
2. New Orleans	1	3	0
3. Denver, Colorado	4	0	6
4. Oakland, California	5	5	0
5. Washington D. C.	4	5	0
6. Newark, New Jersey	6	12	0
7. Milwaukee, Wisconsin	2	13	0
8. Cleveland, Ohio	12	10	0
			Rs. as. ps.
Maximum	12	10	0
Average	3	2	0
Minimum	1	3	0

(b) Public libraries serving 100,000—199,999 population.

City	Per capita Expenditure		
	Rs.	as.	ps.
1. Cambridge, Massachusetts	9	2	0
2. Duluth, Minnesota	4	1	0
3. Fort Worth, Texas	1	9	0
4. Hartford, Connecticut	5	3	0
5. New Haven, Connecticut	4	8	0
6. Paterson, New Jersey	3	2	0
7. Salt Lake City, Utah	3	2	0
8. Tampa, Fla	1	4	0
			Rs. as. ps.
Maximum	9	2	0
Average	3	11	0
Minimum	1	4	0

(c) Public libraries serving 35,000—99,999 population.

City				Per capita Expenditure		
				Rs.	as.	ps.
1. Berkeley, California	..	..	..	5	10	0
2. Devenport, Iowa	..	..	..	3	10	0
3. Evanston, Illinois	..	..	..	4	11	0
4. Waco, Texas	..	..	..	2	3	0
5. East Cleveland	..	..	..	10	8	0
6. Wooster, Ohio	..	..	..	1	10	0
				Rs. as. ps.		
Maximum	..	..	..	10	8	0
Average	..	..	..	4	4	0
Minimum	..	..	..	1	10	0

(d) Public libraries serving 10,000—34,999 population.

City				Per capita Expenditure		
				Rs.	as.	ps.
1. Palo Alto, California	..	..	..	12	7	0
2. Ames, Iowa	..	..	..	5	12	0
3. Fair Haven, Massachusetts	..	..	..	6	7	0
4. Moline, Illinois	..	..	..	4	0	0
5. Middletown, N. Y.	..	..	..	4	1	0
6. Minot, North Dakota	..	..	..	2	9	0
				Rs. as. ps.		
Maximum	..	..	..	12	7	0
Average	..	..	..	4	12	0
Minimum	..	..	..	2	9	0

Notes: (1) The per capita library rates are worked out on the basis of 1 dollar = 5 rupees.

(2) Pies are generally left out.

(3) The rates are for the year 1942.

SYMPOSIUM 2

DOCUMENTATION PROBLEMS

21 GENERAL

PAPER 211

Documentation Problems for Investigation

S. R. RANGANATHAN

[A conspectus of the papers forming this symposium, though all the problems isolated in this paper have not been fully covered by the symposium.]

0 Factors for Consideration

The following are the factors for consideration: 1 Language; 2 Script; 3 Subject; 4 Kinds of Bibliographies; 5 Technique; 6 Publication; 7 Service; 8 Agency; and 9 International Co-operation.

1 Language

11 IMMEDIATE FUTURE

In India, English is likely to be the medium for most of advanced thinking in most subjects for not less than five years and perhaps for not more than thirty years. India's output of nascent thought will be largely in English during this period. The input also will be largely through English medium with other languages like German, French, Russian, Italian, Dutch, Danish, Swedish, Norwegian, Finnish, Japanese, and Chinese. The dominant language for documentation work may therefore have to be English with other languages thrown in along with it, so far as headings and titles of entries are concerned.

12 ULTIMATE FUTURE

In due course, India's output of advanced nascent thought may be in Hindi alone or equally in the following languages: Sanskrit, Hindi, Panjabi, Gujarathi, Marathi, Uriya, Bengali, Assamese, Tamil, Malayalam, Kanarese, Telugu, and Urdu. The input will continue to be as in the earlier years. The dominant language for national documentation may become Hindi with all the other languages thrown in so far as headings and titles of entries are concerned. This may be so both on account of Hindi being the national language and of Hindi being the language spoken by the largest group.

13 DATA TO BE COLLECTED

The following data will be of use in planning documentation work for India:—

11. List and number of advanced periodicals currently published in India on the basis of subject and language;
12. An analysis of the periodicals currently published in the world, on the basis of subject, language and country;
13. An analysis of the periodicals currently taken in India, on the basis of subject, language and country;
21. List of Indian periodicals which figure in the abstracting periodicals of the world;
22. List and number of the bibliographical periodicals currently produced in the world; and
23. List and number of the bibliographical periodicals currently taken in all the important libraries of India taken together.

2 Script

21 IMMEDIATE FUTURE

In India the Roman script is likely to be used in most of the advanced periodicals produced in India, for not less than five years and perhaps for not more than thirty years.

22 ULTIMATE FUTURE

In due course, the Devanagiri script may be uniformly adopted for all advanced periodicals produced in India whatever be the language, or eleven different scripts—one for Sanskrit, Hindi and Marathi, and one for each of the other ten languages.

23 PROBLEMS FOR INVESTIGATION

It is desirable to examine the difficulties in the merging together of entries in the different Indian scripts and the Roman, the Cyrillic and Japanese and Chinese scripts to form one alphabetical sequence and to evaluate the practicability and the relative advantages of transcribing all entries in one All-India script or of keeping each script by itself but establishing phonetic equivalence among the different scripts and an ordinal sequence among them so that all entries may be thrown into one sequence without transcription.

3 Subject

It is worth examining the subject analysis of the periodicals mentioned in each of the sub-sections of Section 13 and estimate the changes likely to occur in it as the country develops.

4 Kinds of Bibliographies

The possible kinds of bibliographies may be enumerated on the basis of the following characteristics, apart from their physical form:—

1. Time covered;
2. Area covered;
3. Subject covered;
4. Thought-unit;
41. Macro-Units embodied in separate volumes or pamphlets;
42. Micro-Units embodied in articles in periodicals;
5. Extent of detail;
51. Bare list with occurrence or collation and imprint;
52. With annotation;
53. With abstract.

41 TIME COVERED

On the basis of the time covered, two important classes of documentation lists can be recognised:—

1. Current and open; and
2. Retrospective upto an epoch; and thereafter current and open.

For several years it will be difficult to provide for the second variety. But the first variety should be taken on hand without any delay in India.

42 AREA COVERED

421 State Bibliography

The existing quarterly lists of a few constituent States should be analysed for one complete year and the average number of entries of (1) books and (2) whole volumes of periodicals should be estimated. The number of pages for each *State bibliography* on the basis of demy octavo with ten point type should also be estimated. Cost of printing, paper and man-power are other items to be estimated.

422 National Bibliography

Estimate should be made for a *National bibliography*, along the lines suggested in 421.

43 SUBJECT BIBLIOGRAPHY

431. A *Subject bibliography* confined to one nation is not of value. For each nation to prepare a *Subject bibliography* on a world-basis is uneconomical. It will be still more so for each constituent State or each library to do so.

432. However the existing time-lag in the production of Subject Bibliographies covering the world-output and the limited number of subjects in which work is being done in India today may suggest the production of a *Subject bibliography* covering not only India's output but also a relevant part of the output of certain other countries. For convenience of reference we shall call this *Indian subject bibliography*.

433. The *Indian subject bibliography* should cover the entire output of India, even though it may be selective in regard to the output of other countries, as determined by the materials actually taken in the country and the actual or anticipated demand estimated with the advice of the workers in the various subjects.

434. It will be an advantage if the result got under 13 (11) and (13) can be amplified by consulting the National Bodies in different subjects and the persons who are known to be engaged in active research in different subjects.

435. To begin with, a single bibliographical periodical may cover all subjects. In due course, as and when demand justifies it, it may be split up into several periodicals each focussed on a specific group of subjects.

436. Learned Bodies or Industries may be tempted to build their own Special Subject Bibliographies. But it would be conducive to national economy if they pool their resources together and strengthen the chances for the success of a comprehensive *Indian subject bibliography*.

437. However, each library, particularly one specialising in one subject or one group of associated subjects and attached to particular academic or business bodies or Government Departments, will do well to make a temporary *Local subject bibliography* confined to the needs—actual and anticipated—of their clientele and to the materials actually taken by them. This can temporarily tide over the time-lag inevitable in the *Indian subject bibliography*.

438. It will be a help if an estimate can be made of the number of pages, cost of printing, paper and man-power needed to produce.

1. The *Indian subject bibliography*, and

2. The temporary *Local subject bibliography* in some existing typical libraries. (In this case, there may not be need for printing).

44 THOUGHT-UNIT

441. The National and State Bibliographies should confine themselves to macro-units of thought.

442. The Subject Bibliographies should cover both macro- and micro-units of thought.

45 EXTENT OF DETAIL

451. The National and State Bibliographies should not go beyond bare lists.

452. It may be uneconomical and even impracticable for Local Subject Bibliographies to provide regular abstracts but annotations may be necessary in some entries.

453. The *Indian subject bibliography* may have to provide abstracts.

5 Technique of Documentation Work

5. The technique of documentation work may be considered under three heads:—

1. Classification;
4. Abstracting; and
5. Cataloguing.

51 CLASSIFICATION

51. It is desirable to investigate:—

1. the adequacy of U.D.C. and the difficulties which it presents in depth-classification;
2. the adequacy of Colon Classification and the difficulties which it presents in depth-classification;
3. the need or otherwise for further investigation of this question either along the lines of Optional Facet idea now in progress or any other line; and
4. the dangers, if any, of the tendency to abandon reliance on classificatory technique and to depend solely on the alphabetical aid of the Dictionary Catalogue.

54 ABSTRACTING

It needs examination:—

- (1) If abstracting can be done by the library profession itself or should be left to the specialists in various subjects or if it should be done jointly by the library profession and the specialists;
- (2) If it is more economical for classification to precede or to succeed abstracting work;
- (3) If the abstract found in the *Indian subject bibliography* will have to be adapted and re-done by local libraries to suit local interests and if so whether this adaptation can be done by the staff of the local library, consulting whenever necessary the local specialists concerned and the percentage of demand for such adaptation.

55 CATALOGUING

551 Classified Arrangement

551. If Classified Arrangement is to be adopted it is desirable for a paper to examine the points on which the rules in the *Classified catalogue code* are inadequate to meet the demands of documentation of micro-units of thought, and to frame the necessary supplementary rules.

552 Dictionary Arrangement

552. If classified arrangement is to be abandoned, it is desirable for a paper to examine the points on which the rules in the *Dictionary catalogue code* are inadequate to meet the demands of documentation of micro-units of thought, and to frame the necessary supplementary rules.

6 Physical Production in Documentation Work

61 *Indian subject bibliography*

61. It needs investigating:—

1. What should be the periodicity of the primary issues?
2. What should be the mode of cumulation?
3. What should be the method of duplication of copies—ordinary printing, off-set or any other near-printing process? and
4. What should be the format with particular reference to the desirability or otherwise of providing for particular entries being cut and mounted on cards by local libraries.

62 *Local subject bibliography*

62. It needs investigating:—

1. Whether it is sufficient to maintain a *Local subject bibliography* in cards or slips; and
2. Whether it is necessary to duplicate copies and if so by what process.

7 Documentation Service

7. The question of service should be examined from two angles.

1. Local Service i.e. service to the clientele in the locality or the campus; and
2. Extra-Local Service i.e. service to those who are not local clientele.

71 LOCAL SERVICE

71. It needs investigating whether Local Service can be satisfactorily made by:

1. Provision for consultation only;
2. Provision for loan; and
3. Provision for mechanically reproduced copies of specific materials to be given away outright to the clientele.

72 EXTRA-LOCAL SERVICE

72. It needs investigating:—

1. Whether service to persons other than local clientele is best done by inter-library loan only;
2. Whether it is necessary to supplement inter-library loan by supply of mechanically reproduced copies;
3. If mechanically reproduced copies should be supplied, whether it will be more economical to have the reproduction done either in one National Centre or a few Regional or State Centres;
4. If mechanical reproduction is to be made, how the cost should be distributed among the clientele, the Library Authorities and the Agency for reproduction;
5. What can be the means and machinery for the location of a material that is sought by a reader; and
6. What legal difficulties stand in the way of mechanical reproduction and how they should be overcome.

8 Agency

81 *National bibliography*

81. It needs investigating:—

1. Whether the agency for the *National bibliography* should be the National Central Library or an *Ad hoc* Body or an All India Association of the Book Trade;
2. Whether the work should be shared by all the three agencies and if so in what manner; and
3. In view of the absence of any of the three types of agencies at present which is the agency that is most expedient to be set up immediately and how is the responsibility to be shifted as and when the other agencies get established.

82 *State bibliography*

821. All the problems mentioned under 81 are to be investigated.

822. Further the way in which a State Bibliographical Agency can collaborate with the National Bibliographical Agency should also be examined.

83 Indian subject bibliography

83. All the four problems mentioned in 81 and 82 need investigation from this point of view also.

9 International Co-operation

91. The problems to be investigated are:—

1. World-organisation *vs.* International Co-operation;
2. If it is the former, what is the agency to which it should entrust the work;
3. If it is the latter, what should be the co-operating national agencies and what are the factors that should form the basis for distribution of subject-regions among the nations;
4. In the light of the information collected under 13 (22) how should future work be done and in particular should the existing organisation be disturbed at all;
5. Should there be only one country entrusted to each subject-region or is it wiser to make two countries responsible for each subject-region in order to meet the contingencies arising from international conflagration and, if two countries are to be chosen, what is the basis for the choice, which will ensure continuity of work;
6. How should quick co-operation be secured from the other countries?
7. What should be the language, script, technique and publication process in the light of the points raised in sections 1, 2, 5 and 6? and
8. What will be the frequency of service of reading materials across national borders and what should be the method used in the light of the points raised in section 7?

Documentation Work and Documentation Centre: Definition of Functions

S. R. RANGANATHAN

[Documentation Work, Documentation Service and Translation Service are mentioned as three separable functions of a Documentation Centre. The National Central Library is shown to be the best host for the National Documentation Centre.]

0 Introduction

Documentation is a term whose ineffability is causing confusion. It makes thinking loose or foggy; it makes intercourse among librarians equivocal; and it even sets up a conflict and confuses the issue between the profession of Librarians and of that which we have called Data Specialists (*see* UNESCO/NSSL/L dated 10-10-1950 and entitled *External memory and research* by S. R. Ranganathan and J. W. Perry.). At the least, Documentation is taken to be synonymous with bibliography-building with emphasis on micro-units of thought embodied in articles in periodical publications and occasional releases. Next it is taken to cover bibliography-building and reference-service. As a third alternative, it is understood to cover bibliography-building, reference service, and the mechanical reproduction of any particular reading material wanted by a reader. Occasionally, it is also made out to be the entire region of Library Service and Library Science. According to an ambitious view, it is even claimed to stand, for not only Library Service and Library Science, but also for book-production and indeed the production of every material means by which thought can be transmitted. I was not aware of this omnibus meaning of Documentation until it came up for discussion last September at a gathering of Librarians and Documentalists at the residence of Mrs. Ruth H. Hooker, the Librarian of the Naval Research Laboratory at Washington D. C. An examination of the *Review of documentation* of the FID, the *Journal of documentation* of the Aslib and the *American documentation* of the MIT does not clarify the issue. It is too late in the day, however, to avoid the term Documentation. Therefore the only means to eliminate waste due to the nebulousness of this term is to come to an agreement about its definition and if possible to define it by enumeration.

1 Proposed Definition

I propose that Documentation may be taken to include Documentation Work (= the old bibliography-building) *plus* Docu-

mentation Service (=reproduction of any reading material needed by a reader). This means that we should exclude, from the connotation of Documentation, Reference Service—its philosophy, social economics and technique—Production of reading and kindred materials for transmitting information or ideas, and indeed every other aspect of Library Service, Library Science and all its auxiliary sciences and techniques. In other words it should be taken as a new term for a certain partial comprehension of the sectors in Library Service, etc. This partial comprehension covers the old "Bibliography-building" and the new "Mechanical reproduction of specific pieces of writing". I wish that the *Libri* stimulates international discussion on this vital question. If it does, it will prevent a good deal of wasteful controversy and make international intercourse in regard to library matters definite and easy.

2 Documentation Work vs. Documentation Service

Documentation Work and Documentation Service are to be recognised, to be the two main mutually exclusive and totally exhaustive divisions of Documentation. It can be easily seen that their techniques are totally different. The qualifications needed for Documentation Work are competence in classification, abstracting and cataloguing. The qualifications needed for Documentation Service are knowledge of the techniques of reproduction by photo-processes, of building and maintaining readers needed to facilitate the reading of photo-processed copies, and perhaps also competence in various other kinds of near-printing processes. Documentation Work requires capacity to assess the soul (=thought-content) of reading and kindred materials, to make entries of them with maximum lucidity-effect, to arrange the entries in a more or less helpful order, to provide the necessary added entries to make the main entries easily reached by readers who may seek it from different angles or starting points and for this purpose to classify the entries according to a powerful, analytico-synthetic, expressive scheme of depth-classification. Documentation Service on the other hand requires specialised knowledge of the physics, the chemistry and the technique involved in the production of copies by means other than that of printing from movable metallic types. Documentation Centre may be defined as the place where documentation work and service are done.

3 Translation Service

It may be stated here that it has come to be the practice to include among the functions of a Documentation Centre not only Documentation Work and Documentation Service but also

Translation Service. Some may not put this on a par with the other two. But if it is admitted even as a secondary function of a documentation centre, we must agree that this third function will require capacity to translate between several languages and familiarity with the turns of expression, terminologies and ideas characteristic of several subjects.

4 Documentation Service and Translation Service

Another function expected of a Documentation Centre is the finding out of a library where a required piece of writing is available. After it is located, either the user who wants it may go to the library to satisfy his wants or may borrow the material from that library through his own local library or directly. If neither of these two courses is available, Documentation Service forms the third means by which his want can be satisfied. Whichever be the means by which the reading material is made accessible to the reader, in case he does not read the language (=Subtle Body) in which the thought (=Soul) is embodied, Translation Service becomes a necessity.

5 Location of Documentation Centre

The question arises: Where should the Translation Service be done and where should the Documentation Service be done? They may both be done in the library where the reading material exists or in the local library of the reader. In either case, it is an individual library that will undertake Documentation Service or Translation Service as the case may be. This will be uneconomical unless the frequency of demand for the services will keep the Documentation Service Plant or the Translation Service Staff, employed for a certain number of hours of work each day. In practice it is found that a local library seldom finds a sufficient frequency of demand in these matters. Economy therefore requires that these services should be rendered centrally from one place.

51 REGIONAL *vs.* NATIONAL DOCUMENTATION CENTRE

It is obvious that that place should itself be a library. In other words if we agree to denote the central place by the term 'Documentation Centre', we say that it is desirable to locate the Documentation Centre in a library. It is easily seen that that library, which is richest in its holdings, will prove to be a helpful host to the Documentation Centre. Further the minimum radius of the area tied up to a Documentation Centre will have to be decided by the fact that the frequency of demand for Documentation and Translation Services is at an economic level. These considerations point either to a Regional Documentation Centre or a National Documentation Centre.

52 DOCUMENTATION SERVICE CENTRE

It is assumed that the National Central Library will have the richest collection in a country. From this point of view, it is the best host for the Documentation Centre. With the modern facilities of telephone, wireless, and transport, the National Central Library will be within not more than a day's distance from any corner of the country. If these means of communication and teletyping come to be widely used, the National Central Library can be virtually taken to be next door to anybody whatever, from the point of view of time. There is still another advantage in having a single Documentation Service Centre for a nation and locating it at the National Central Library. The bibliography or the documentation list including abstracts can be maintained in micro-reels, micro-film strips and magnetic tapes which will admit of rapid search by machinery. This machinery for search can be interlocked with the machinery for teletyping and thus Documentation Service can be instantaneous, no matter in what part of the country the reader lives. It is for the Ralph Shaws to say what frequency-strain the materials to be searched and the machinery for search can stand. When the demand goes beyond that limit, it might be wise to establish the necessary second and other sets of materials and machinery in other regional centres. This is what is indicated by Documentation Service and Translation Service.

53 DOCUMENTATION WORK CENTRE

But so far as Documentation Work (=Bibliography-building) is concerned, there is no denial that it is done best in the National Central Library. In the first place it will have the most varied (in regard to specific subjects) and exhaustive collections in the country. The classification, the coding and the embodiment of the entries in a form needed by machinery for search, are all best done in the National Central Library. Even when regional centres become necessary for service the whole range of Documentation Work down to the making of the machinery and the materials for search can be done at the National Central Library and the materials and the machinery can be duplicated for use at the Regional Centres. The presumption is that the Regional Centres will also be fairly rich in the materials documented and the need for rushing the reading materials from the National Central Library to the Regional Library will only be occasional. If this latter assumption is not correct, it would perhaps be more economical to establish the duplication of the machinery and the materials for search also at the National Central Library itself.

54 NATIONAL CENTRAL LIBRARY AS HOST

The location of the National Documentation Centre, with all its three functions, in the National Central Library will also have other advantages. In the first place the staff for Documentation Work—classification, abstracting and cataloguing—can work, with mutual advantage, in close collaboration with the staff for the normal classification and cataloguing of the books in the National Central Library. The resulting concentration of the technical staff (=classificatory and cataloguing staff) engaged in organising embodied knowledge will create an atmosphere and reach a level of potential, which will help the improvement of the classificatory and cataloguing techniques in a measure which cannot be achieved by scattering that staff. Specialisation in subject-fields and languages can be carried out with comfort to any desired and profitable extent. Thus one centre can look after all the three functions with ease and economy.

55 NATIONAL CENTRAL LIBRARY *vs.* NATIONAL SUBJECT CENTRES

The above is the conclusion we reach if we approach the subject from the angle of omnibus documentation i.e. documentation in all regions of knowledge. However, there is a tendency to organise Documentation Work not on omnibus basis but on subject basis. There is a tendency for example for linking up all the engineering libraries of a country with a National Engineering Central Library; and similarly to string all agricultural libraries into a chain which is tied up to a National Agricultural Central Library and so on. I feel the advantages of these series of subject-chains can be had without any deterioration if all such National Subject Central Libraries are housed under the same roof *viz.* the National Central Library and under the direction of the same chief *viz.* the National Librarian. The individuality of each subject—whether it be for Documentation Work or Documentation Service or Translation Service—can be preserved to the fullest extent and at the same time the overlapping of regions of knowledge can be turned into good account.

56 INTEGRATION

A collection which is umbral for a subject may prove to be penumbral for several other subjects. For example a mathematical collection is umbral for mathematics, but penumbral for physics and engineering. A collection in physics is umbral for physics, but penumbral for mathematics on the one side and engineering on the other and so on. A collection in engineering is umbral for engineering, but it may need collections in mathematics, physics, chemistry, technology, useful arts, economics and law, as penumbral adjuncts. So also a collection in agriculture is umbral

for agriculture, but it may need collections in chemistry, biology, botany, zoology, economics, sociology and law as penumbral adjuncts. Certainly this factor would lead to avoidance of duplication and hence to greater economy, if all the National Subject Central Libraries form an integral part of the National Central Library. The Documentation Work too will gain as much economy, as the building and the maintenance of the collections. So it will be with Documentation Service as well as Translation Service.

6 PRE-NATAL DOCUMENTATION

If my dream of pre-natal classification and cataloguing of books and pre-natal documentation of periodical articles comes to be realised, we can say that the organisation proposed here will be more economical and efficient, than any that we can conceive of at the present state of our knowledge.

61 PLETHORA OF PERIODICALS

The rate at which periodical publications are produced, the phenomenal way in which the number of articles (i.e. embodied micro-units of thought) mount up, and the minute extent to which atomisation of knowledge is being carried out, make it purposeless and uneconomical for a reader to purchase many of the periodicals which are not exclusively devoted to his own specific subject but in which it too may be represented. It often proves to be equally uneconomical or beyond the financial capacity even of libraries to take a large collection of periodical publications. A consequence is that even with the whole world as the market, many periodicals are not commercial propositions. This is possibly a result of, a larger percentage of humanity being drawn into creative work, of much of modern research involving work by a team spread over the whole globe, and of the depth to which specialisation has been carried out. The very bulk of the published materials obstructs easy access to the needed material and even to its being located. The burden of publication of learned periodicals is thus tending to be increasingly an obstruction rather than a help, if we continue the present technique of producing or organising them.

62 WELCOME FEATURE

The problem is to get over this difficulty. None of the three causes leading to this plethora of published micro-units of thoughts can be said to be improper or fit to be removed. More people doing creative work, team-work, and intensive specialisation—these are all factors which are socially desirable and which should be even intensified. Therefore the elimination of the wastage and obstruction, involved in the present international

organisation or absence of the organisation in regard to periodical publications, should be sought in some other direction.

63 A REMEDY

It is here that we see the wisdom of J. D. Bernal's proposal at the Scientific Information Conference convened by the Royal Society in 1948. The proposal amounts to this. In each country every learned paper produced should be deposited with the National Documentation Centre. This should be properly classified, abstracted, catalogued and featured in the weekly *National subject bibliography*. If the demand for the full text is only for six or less copies, these should be made by ordinary typing with carbon sheets and sent to those who need them. If the number of copies needed is less than a thousand, the copies may be reproduced by an appropriate near-printing process. If the demand is for a much larger number, printing from movable metallic types may be resorted to. The time allowed for estimating the demand may be fixed in the light of experience. This would certainly result in considerable world-economy. It will put readers in a mood to scan a much larger area of nascent thought than it is now possible. When full texts of the papers appear in thousands of periodicals most of the countries are experiencing shortage of paper, shortage in printing trade, and shortage of money. It is a problem for Librametry to estimate the amount of saving which this extreme form of pre-natal Documentation will effect.

64 A PSYCHOLOGICAL FACTOR

It has been expressed by some that the denial of the pleasure of seeing one's full creation in print will have the effect of an inhibition which may prove to be too harmful to be accepted. No doubt due weight should be given to this psychological factor also in the librametrical investigation of this problem. I am prepared to hazard that this psychological tempo in authors of learned articles is not a deep-rooted one and will lend itself to be eliminated by practice. After all, most of the creative thinkers express themselves in writing not so much to attract the attention of an audience as to give relief to inner tension. Many are satisfied with manuscript correspondence with a handful of their peers scattered throughout the world. These have now to be found by personal enterprise. In the scheme put forward here, this personal enterprise will be helped and supplemented by the National Documentation Centre.

7 National Plan

All this is planning. Planning of this drastic and thoroughly rational kind will be possible only in virgin countries where

haphazard development had not already taken place and established a sense of prestige, a certain mental set-up and consequently resistances of diverse sorts. In the developed countries it will need an accommodation and an adjustment of perhaps more than human possibility to merge all the existing casual developments into a rationally developed national enterprise. Countries like India and many other Asian countries and perhaps some of the countries of Eastern Europe, South America and Africa will do well to resist the tendency to imitate blindly the casual—and often wasteful—set-up in developed countries like the United States and the United Kingdom. They should leap ahead of those countries by seizing rational, economical planning as the prize for having bided their time and reviving to life in these matters rather late in the day. It is like winning a prize in slow bicycle race.

71 DEVELOPED AND NEWLY DEVELOPING NATIONS

The good of the world demands that

- (1) the newly developing countries should willingly shoulder responsibility to venture along these new lines; and
- (2) the already developed countries should abstain from thrusting their own notions on the undeveloped countries, but should welcome and encourage their new ventures. If international understanding and co-operation rises to this pitch and even otherwise, the factors on which world-documentation-thought should be turned will be seen to be
 1. the designing of a good system of depth-classification;
 2. the improvement in abstracting technique;
 3. the development of a helpful cataloguing method; and
 4. the finding out of means for securing promptness in the release of the weekly *National subject bibliography*, and in the rendering of Documentation and/or Translation Service on the part of the several National Documentation Centres.

72 THE LABORATORY SHIFTS

The pursuit of all these factors needs experimenting. The West had been till now providing the only laboratory possible for such experimenting. That laboratory is now getting clogged and petrified by out-moded traditions. The laboratory therefore shifts to the East. India's renaissance synchronises with this shift. It is, therefore, the duty of the library profession in the India of to-day to give up the indolence of lotus-eaters, to practise work-chastity and to make its own contribution to the world's technique in documentation work and service.

Slimming Documentation Lists

S. R. RANGANATHAN

[On the basis of Vedic tradition, standards of publications are classified. Confining a documentation list to Seminal and Research materials is suggested as a means of slimming it. A possible technique to assort publications is mentioned].

1 First Breaking-down

Documentation List of nascent thought may be geographically restricted to one nation and cover all subjects, or be restricted to one subject and cover the whole world, giving rise to Omnibus National Bibliographies and World Subject Bibliographies respectively. The tendency is to replace Universal Bibliographies—i.e. a single Omnibus World Bibliography by a group of either of these primary units of bibliographies. This is the first stage of breaking-down which is almost universally accepted. This tendency is traceable, among other reasons, to the unusably unwieldy size to which an Annual Omnibus World Bibliography would swell. This swelling is due mainly to the periodicals currently produced having to be counted in hundreds of thousands and the articles appearing in them having to be counted in millions.

2 Resistance to Further Breaking-down

21 BY GEOGRAPHICAL AREA AND SUBJECT

We are now past the stage when either geographical or subject restriction is able to slim down the primary unit to a comfortable usable size. A further breaking-down is necessary. But further geographical restriction in the case of Omnibus National Bibliographies is not thinkable, as the nation has now well established itself as an irreducible unit in the production of nascent thought. In fact it is being increasingly felt that even restriction to a nation amounts to an unnatural and misleading fractionisation. Restriction in subject area cannot be continued either. Even with the present breaking-down of subjects, documentation in one subject has to include several auxiliary subjects and any one subject has to figure in many subject-bibliographies. This is illustrated by paper 224. This phenomenon will be even more pronounced and will lead even to more uneconomical repetition if the subjects are further restricted. The history of the *Biological abstracts* has much to say on this point.

22 THE TIME-FACTOR

The possibility for further slimming down should, therefore, be explored in other ways. We cannot get any result by restricting the time-factor to less than a year. On the other hand, though the year has become so dominant a time-unit in our affairs, it is found to truncate bibliographies too inconveniently. This inconvenience is sought to be minimised by the provision of quinquennial, decennial or even thirty-year cumulative indexes to the annual documentation volumes. Thus the time-dimension is as resistant to slimming as space-dimension or subject-dimension.

3 Slimming by Standard

We have therefore to search for some other dimension in which slimming can be attempted. That dimension is that of the Standard of Exposition. Unfortunately standard flouts both the Canon of Ascertainability and the Canon of Permanence. The Canon of Ascertainability is flouted because the spectrum of standard is a continuous one without any sharply distinguishable bands. The Canon of Permanence is flouted because of the continuous push-up in standard in almost every subject. Whatever, passed as advanced, a hundred years ago, has become elementary today. A comparison of university question papers set for the same examination a hundred years ago and now will substantiate this statement. In spite of these two difficulties, as the resistance in the other three dimensions is impenetrable and as we are unable to spot out any other more easily yielding dimension, we are obliged to pursue the dimension of standards a little more closely.

4 Factors for Consideration

This pursuit involves two factors. We may first formulate and define a scheme of standards. Then we should establish a technique for assigning each article to the appropriate standard in the scheme.

5 A Vedic Tradition for Scheme of Standards

While I was engaged in the pursuit of the first factor some ten years ago, Swami Turiananda Brahmendra Saraswati, disciple of Swami Svayamprakasa Brahmendra Saraswati of Senthamangalam, happened to call on me and mentioned four standards of exposition recognised in Vedic tradition. This put me on a helpful track.

The question is whether documentation lists—be they of the Omnibus National variety or of the World Subject variety—can be broken down on the basis of the following five standards.

51 SEMINAL MATERIAL

Contributions of a fundamental nature which occasionally emanate from master-minds and help the fertilisation of several minds by affording a tool for application in the furtherance of thought—these we shall call Seminal Contributions or Contributions of the First Class. This was called *Prabhu sammita* in Vedic tradition.

Example:—Sir C. V. Raman's paper entitled *A new radiation* (1928) which appeared in the *Indian journal of physics* is a Seminal Contribution. Another universally known example is Darwin's first contribution on *Origin of species*. The account of Foci, Facet, and Phase in *Library classification: Fundamentals and procedure* belongs to this class.

52 RESEARCH MATERIAL

Contributions embodying the results of investigations in specialised fields which are made from time to time by whole-timed or part-timed research-workers and are thus made available for circulation among co-workers in the field so as to facilitate team-work and avoidance of unintended duplication—these we shall call Research Contributions or Contributions of the Second Class. These were called *Suhrith sammita* in Vedic tradition.

Example:—The hundreds of papers listed in the *Indian journal of physics* (1930-1932) under the title *Bibliography of Raman effect* consist mostly of Research-Contributions. So are the thousands of papers on evolution and other related problems, which have appeared in biological periodicals since Darwin's days. Many of the papers appearing in the *Annals* of the Indian Library Association belong to this class.

53 EXPOSITORY MATERIAL

Contributions of an expository nature which emanate from time to time from persons with special flair for exposition and are so illuminating as to light up the field even for non-specialists in such a way that they can take an intelligent interest in the progress of thought in general—these we shall call Expository Contributions or Contributions of the Third Class. This was called *Kānta sammita* in Vedic tradition.

Example:—Raman's own account of the Raman Effect forming his Nobel Lecture or his contribution to the *Malaviya commemoration volume* is an Expository Contribution. The delightful talks on Raman Effect which the Madras audience was accustomed to hear from Prof. J. P. Manickam is also a contribution of that kind. So are the various papers that Huxley wrote in defence of Darwinism and the popular expositions of relativity by Eddington and Jeans. Some of the articles in the *Granthālaya* of the Indian Library Association are of this class.

54 ELEMENTARY MATERIAL

Contributions of an elementary nature which seek to give an extremely popular exposition of particular topics in a form which brings them to the level of the man in the street or even the child, not infrequently even in the form of stories—these we shall call Elementary Contributions or Contributions of the Fourth Class. This was called *Sisu sammita* in Vedic tradition.

Example:—An account of Raman Effect or of Origin of Species in any of the school or college magazines forms an Elementary Contribution. Some of the articles in the *Granthalaya* and the *Bulletin* of the Indian Library Association are of this class.

55 REPORTING MATERIAL

Contributions of the news variety which simply state facts and occurrences without either giving the details of the research involved or so relating them to the already known field of knowledge as to bring them within the comprehension of non-specialists. These we shall call Reporting Contributions or Contributions of the Fifth Class.

Example:—The announcement of the new radiation in *Nature* (1928), in the *Naturwissenschaften* (1928) and in the *Comp. rend.* (1928) are Reporting Contributions. Most of the material appearing in the *Bulletin* of the Indian Library Association are of this class.

6 Occurrence of Different Standards

It happens however that these standards cannot be determined merely by the periodicals in which the articles occur, though certain periodicals have a greater density of one standard than another. Here are some examples.

Periodicals like *Nature*, *Naturwissenschaften*, *Comp. rend.*, *Science*, *Current science*, and a host of German ones which begin with the word *Sitzungsberichte* have the greatest density of Reporting Contributions. It sometimes happens that reports of nascent thought occur also in the columns of an ordinary newspaper. Contributions devoted to the history or bibliography of topics are all to be classed with reporting ones.

The presidential addresses in the *Reports* of the British Association for Advancement of Science and the *Proceedings* of similar bodies in various other countries are outstanding examples of expository contributions. Such contributions occur also now and then in several periodicals which divide their pages between them and research contributions. *Science progress* and *Discovery* are particularly rich in expository contributions.

In generalia, social sciences and humanities, a large proportion of periodicals contain materials of the expository or reporting variety.

So far as the sciences are concerned the periodicals which are rich in research contributions are the greatest in number. It is they which figure mostly in the abstracting and other bibliographical periodicals.

Seminal contributions are never assessed as such until time renders their potency manifest. Hence we cannot expect any particular periodical or type of periodical to specialise in them. They are also few and far between by their very nature and get published anywhere—even in periodicals which are dominated by the fourth and fifth classes of standards—but more often in those of the second class.

7 Three kinds of Secondary Units

Thus we can at best break down each of the two primary units of bibliography into three secondary units confined respectively to materials of

1. Prabhu *cum* Suhraith Sammita kind or Seminal *cum* Research kind;
2. Kanta sammita or Expository kind; and
3. Sisu sammita or Elementary kind.

71 SCOPE OF WORLD SUBJECT BIBLIOGRAPHY

711 Not Materials of Elementary Kind

There will not be any need to build World Subject Bibliographies for the third kind of materials for the simple reason that children and the mass among adults do not read materials in other languages. It is only authors who write for children or for the common man who may look for models from beyond the seas. Their needs can be satisfied by the Omnibus National Bibliographies for materials of the elementary kind, one for books and another for articles.

712 Not Materials of Expository Kind

The next question is whether World Subject Bibliographies are necessary for expository kind. The dominant users of expository articles are seldom specialists in the subject expounded though it is the specialists that produce them. If at all a specialist desires to have models from beyond the seas for his own exposition, he can draw the help from the Omnibus National Bibliographies for materials of the expository kind.

713 Not Materials of the Reporting Kind

Articles of the reporting variety form a difficulty. They have momentary value. But they will soon be replaced by articles of the seminal or research variety. Perhaps they may be omitted on another ground. They usually occur in periodicals which are virtually of the newspaper kind and are widely taken in the world. They have also their annual indexes. They are thus well looked after and perhaps there is no need to load World Subject Bibliographies with their entries. As it can be seen from paper 224, the present practice is not however to exclude them. We would recommend their exclusion.

714 Materials of the Seminal and Research Kind

Thus, pursuit along the lines of standard lands us in the suggestion that World Subject Bibliographies may confine themselves to materials of seminal and research nature. Will this restriction slim down World Subject Bibliographies to at least half their present size? This is a problem to be pursued by librarmetry.

72 SCOPE OF OMNIBUS NATIONAL BIBLIOGRAPHY

As Omnibus National Bibliography is usually multi-purpose, a modern State generally prefers to bring it out as a whole and not to split it. Perhaps a better plan in their case may not be so much to break them into three kinds, but to indicate standard by putting a distinctive standard symbol against each entry. In the case of this class of bibliography, it has further to be examined (1) whether it should include articles of seminal and research kind; and (2) whether the articles of expository and elementary nature should be featured in the same bibliography as books; or (3) whether articles and books should have independent bibliographies of their own. We advocate the third alternative.

8 Technique for Decision of Standard

81 WILSON'S EXAMPLE

The decision about the standard of an article or a book is not easy. It cannot be totally objective. In regard to current books, a method of deciding whether standard is popular or too severe is being experimented upon by H. W. Wilson & Co. for several years now. When I visited them in September 1950, I spent some time in finding out how they selected the titles for their *Book review digest*. A permanent staff uses its own experience in making a preliminary selection. Proof-copies of the selection are sent to a large panel of public librarians for their vote to be marked against each item. The slugs for the entries are kept standing till the replies come. After the replies are collated,

the slugs of the rejected entries are melted down, while those of the retained entries are struck off and preserved for the successive cumulative editions. This is said to work fairly well for a uni-lingual bibliography.

82 Stamping by National Bodies

The question is whether a similar procedure is practicable to determine standards of micro-units of thought, to decide which materials are of the right standard for inclusion in World Subject Bibliographies. Perhaps the learned bodies in each nation should stamp the materials to be included in the latter—very much as the Indian Library Association does for the articles in its *Annals*. Assuming that this can be done, it has to be further examined how far this procedure will increase the time-lag in the appearance of the bibliography and, in particular, whether pre-natal documentation, suggested by J. D. Bernal and outlined in greater detail by me in section 63 of paper 212, will be practicable.

22 DATA

PAPER 221

PERIODICALS CURRENTLY PUBLISHED IN INDIA

P. N. KAULA AND R. S. SAXENA

This list is based on the returns given by the different libraries of India for incorporation in the *Union Catalogue of periodicals publications in South Asia* being prepared by the Indian Library Association and the Unesco Science Co-operation Office for South Asia. It is classified by the Colon Classification. Some of the periodicals have not been personally examined. It is also likely that some of the periodicals included in this list have ceased publication.

This list should therefore be taken only to be a provisional one on the basis of which a more accurate list may be made later.

All corrections and additions will be thankfully accepted.

1 Bibliography

14:3155 MARATHI BOOKS, BIBLIOGRAPHY

14:3155m44,N Marath. Nagari

2 Library Science

2m44,N Beng. Lib. Asso. B.
2m44,N4 Ind. Lib.
2m44,N49 Abgila

5 Periodicals (General)

502 INDOLOGY

502.44,N J.o.t. Asia. Soc. o. Beng.
502.44,N0 Mem. o.t.r. Asia. Soc. o. Beng.
502.44,N09 Q.J.o.t. Myth. Soc.
502.44,N1 J.o.t. Bihar Res. Soc.
502.44,N17 Ann. o.t. Bhand.
Orient Inst.
502.44,N2 J.o.t. Bom. Branch.
o.t.r. Asia. Soc.
502.44,N27 An. o.t. Orient. Res. Uni. o. Mad.
502.44,N3 J.o.t. Ram. Varm. Res. Inst.
502.44,N32 Sanshodak.
502.44,N35 Asia. Soc. o. Beng. Lett.
502.44,N36 Poona Orient.
502.44,N37 Adyar Lib. B.
502.44,N38 New Ind. Antiq.
502.44,N39 B.o.t. Deccan Coll. Res. Inst.
502.44,N391 J.o.t. Guj. Res. Soc.
502.44,N392 J.o. Sri Sankaragur. Sri Rang.
502.44,N393 J.o.t. Tanj. Saras. Mahal Lib.
502.44,N4 An. o. Sri Venkates. Orient. Inst.
502.44,N43 J.o.t. Ganga. Jha. Res. Inst.
502.44,N45 J.o.t. Travan. Uni. Orient. Mss. Lib.
502.44,N48 B.o.t. Govt. Orient. Mss. Lib. Mad.

544 INDIAN PERIODICALS

544015 Sanskrit

544015,M Pandit.
544015,N Sans. Sahit. Parish.
544015,N2 Udhyan. Pat.

5440152 Hindi

5440152,M	Nag. Prachar. Pat.
5440152,N	Saraswati.
5440152,N2	Madhuri.
5440152,N28	Veena.
5440152,N3	Bharat. Samachar.
5440152,N33	Hans.
5440152,N4	Jan Mat.
5440152,N48	Samachar.

5440154 Gujarati

5440154,N	Pustakalay.
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5440155 Marathi

5440155,N	Purushartha.
5440155,N3	Sahyadri.
5440155,N4	Hinda.
5440155,N46	Chitram. Jag.
5440155,N47	Kirloskar.
5440155,N471	Bharat. Prava.

5440157 Bengali

5440157,N	Bharatvarsha.
5440157,N2	Vichitra.

5440168 Urdu

5440168,N	Maarif.
5440168,N3	Bis. Saddi.
5440168,N33	Markaz. Itla.
5440168,N4	Nai Zind.
5440168,N47	Itlaat.

544033 Kanarese

544033,M	Jay. Karnat.
544033,N	Prabud. Karnat.

544 English

544,M	Cal. Rev.
544,N	Hind. Rev.
544,N0	Ind. Rev.
544,N07	Mod. Rev.
544,N1	I.T. Coll. Luck.
544,N17	New Rev.
544,N19	Allah. Uni. Mag.
544,N2	Ben. Hind. Uni. Mag.
544,N21	India. Delhi.

544,N25	Allah. Uni. Stud.
544,N26	Thought.
544,N27	Gaz. o. Ind.
544,N28	Illus. Week. o. Ind.
544,N281	J.o. Mad. Uni.
544,N282	Triveni.
544,N3	Arya. Path.
544,N31	Mayur. Chron.
544,N32	J.o.t. Anamal. Uni.
544,N321	J.o.t. Uni. o. Bom.
544,N33	Harijan
544,N331	J.o.t. Osman. Uni.
544,N34	Viswa Bharati.
544,N35	Ind. Inform.
544,N351	Nag. Uni. J.
544,N37	Ind. Aff.
544,N38	Mys. Inform. B.
544,N4	Bom. Inform.
544,N40	Bom. Uni. B.
544,N401	Half yr. J.o. Mys. Uni.
544,N44	Orissa Rev.
544,N441	Pat. Uni. J.
544,N45	Forum.
544,N47	Carr. Today.
544,N471	Coimbatore Time.
544,N472	Mad. Inform.
544,N473	India.
544,N474	Orient. Illus. Week.
544,N48	Assam Inform.
544,N481	Caravan.
544,N482	G.M.I. New. Bom.
544,N483	Ind. Digest.
544,N49	Amer. New. File.
544,N491	Ind. a. Israel.
544,N492	Ind. Read. Digest.
544,N493	Intell. Digest.
544,N494	March o. Ind.
544,N495	People.
544,N496	Progress.
544,N497	Thought.
544,N498	World. Fed.
64m44,N	64 Museums
64m44,N3	B.o.t. Mad. Govt. Mus.
64m44,N4	J.o. Ind. Mus.
	B.o.t. Baroda Sta. Mus. a. Pict Gall.

A Science (General)

Aam44,N3	Ind. Sc. Abst.
Am44,N1	J.o.t. Dept. o. Sc. Cal. Uni.
Am44,N14	J.o.t. Ind. Inst. o. Sc.
Am44,N141	Proc. o.t. Ind. Sc. Cong.
Am44,N18	Trans. o.t. Bose Res. Inst.
Am44,N2	Half yr. J.o.t. Mys. Uni.
Am44,N28	Science.
Am44,N3	Mag. o.t.r. Inst. o. Sc.
Am44,N31	B. Acad. Sc. o. U.P.
Am44,N311	Proc. o.t. Acad. Sc.
Am44,N312	Proc. o.t. Nat. Acad. Sc.
Am44,N32	Ind. Phy. Math. J.
Am44,N321	J.o.t. Uni. Bom. Phy. a. Bio. Sc.
Am44,N33	Cur. Sc.
Am44,N331	J.o.t. Uni. Bom. Phy. a. Bio. Sc.
Am44,N34	Mem. o.t. Ind. Inst. o. Sc.
Am44,N341	Proc. o.t. Ind. Acad. o. Sc.
Am44,N35	J.o.t. R. Asia. Soc. o. Beng. Sc.
Am44,N351	J.o. Sc. a. Tech.
Am44,N352	Proc. o.t. Nat. Inst. o. Sc. o. Ind.
Am44,N353	Sc. a. Cult.
Am44,N354	Trans. o.t. Nat. Inst. o. Sc. o. Ind.
Am44,N38	Q.J.o. Ind. Inst. o. Sc.
Am44,N4	J.o.t. Sc. Club. Cal.
Am44,N48	B.o. Acad. o. Sc. Bang.
Am44,N481	Sc. a. Engg.

B Mathematics

Bm44,N	J.o.t. Ind. Math. Soc.
Bm44,N0	B.o.t. Cal. Math. Soc.
Bm44,N1	Proc. o.t. Banaras Math. Soc.
Bm44,N3	Math. Stud.

B28 STATISTICS

B28m44,N	Sankhya.
B28m44,N4	B.o.t. Cal. Statist. Asso.

C Physics

Cm44,N	Ind. J.o. Phy.
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D Engineering

Dm44,M8	Ind. Eng.
Dm44,M9	Ind. a. East. Eng.
Dm44,N	J.o.t. Ind. Inst. o. Eng.
Dm44,N2	J.o.t. Asso. o. Eng.
Dm44,N29	Q. Tech. B.
Dm44,N3	Mad. Eng. Coll. Mag.
Dm44,N36	J.o.t. Ind. Soc. Eng.
Dm44,N4	Baroda Eng. Ser. Asso. Mag.
Dm44,N44	J.o.t. Cent. Board o. Irr. Simla.

D1 BUILDING

D1m44,N	Build. Gaz.
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D16 CONCRETE

D16m44,N	Ind. Conc. J.
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D2 IRRIGATION

D2am44,N	Abst. o.t. Cent. Board o. Irr. Simla.
D2m44,N	Q. B. o.t. Govt. o. Ind. Cent. Board o. Irr. Simla.

D411 ROADS

D411m44,N	Ind. Road.
D411m44,N3	J.o.t. Ind. Road Cong.

D43 AIR TRANSPORT

D43m44,N	Ind. Avia.
D43m44,N4	Ind. Air.
D43m44,N47	Ind. Sky.
D43m44,N49	Vayupath.

D6 MECHANICAL ENGINEERING

D6m44,N	Ind. Elect. Mech. Eng. J.
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D6:6 Machinery

D6:6m44,N	Ind. Mach. Market.
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D62125 Ball Bearings

D62125m44,N	J.o. Ball Bear.
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D65 ELECTRONIC ENGINEERING

D65m44,N Electrotechnics.
D65m44,N4 Electron. Measure.

D66 ELECTRICAL ENGINEERING

D66m44,N J.o.t. Elect. Dept. Govt. o. Mad.

D666 Wireless

D666m44,N Rad. News.
D666m44,N4 Rad. Time o. Ind.

D86 SEWAGE

D86m44,N Proc. o.t. Wat. Log. Board. Punj.

E Chemistry

Em44,N J.o.t. Ind. Chem. Soc.

E7 BIOCHEMISTRY

E7m44,N Ann. Rev. o. Biochem. a. Allied Res.
i. Ind.

E7m44,N Ann. Rev. o.t. Soc. o. Biochem.
E7m44,N4 Proc. o.t. Soc. o. Biochem.

F Technology

Fm44,N Tisco Rev.
Fm44,N3 Indus. a. New. Ed. o.t.
J.o.t. Ind. Chem. Soc.
Fm44,N4 J.o. Sc. a. Indus. Res.

F191 METALS

F191m44,N Trans. o.t. Min. Geo. Metal. Inst.
o. Ind.
F191m44,N3 Trans. o.t. Geo. Min. Metal. Soc. o.
Ind.
F191m44,N4 Trans. o.t. Ind. Inst. o. Metal.

F555 PETROLEUM

F555m44,N Bur. Shell New.

F5897 TANNING

F5897m44,N Tanner.

F9496 SOAPS

F9496m44,N Ind. Soap. J.

FJ341 SUGAR

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| FJ341m44,N | J.o. Sc. a. Tech. |
| FJ341m44,N3 | Proc. o.t. Ann. Conv. o. Sug. Tech.
Assó. Ind. |
| FJ341m44,N38 | Ind. Sug. Cal. |
| FJ341m44,N4 | Ind. Sug. Kanpur. |

G Biology

- | | |
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| Gm44,M | Bom. Natur. Hist. Mag. |
| Gm44,N | Proc. o.t. Ind. Acad. o. Sc. Sec. B. |
| Gm44,N2 | J.o.t. Beng. Natur. Hist. Soc. |
| Gm44,N27 | B.o.t. Mad. Govt. Mus. Natur. Hist.
Sec. |
| Gm44,N3 | J.o.t. Uni. Bom. Bio. Sc. |
| Gm44,N4 | Cal. J.o. Natur. Hist. |
| Gm44,N42 | Prakriti. |

G:5 ECOLOGY

- | | |
|-----------|------------------------|
| G:5m44,N | J.o.t. Ind. Ecol. Soc. |
| G:5m44,N4 | Ind. Ecol. |

G:6 GENETICS

- | | |
|----------|------------------------------|
| G:6m44,N | Ind. J.o. Gene. Plant Breed. |
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H Geology

- | | |
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| Hm44,M | Mem. Geo. Sur. Ind. |
| Hm44,M6 | Pal. Ind. Geo. Sur. Ind. |
| Hm44,M68 | Rec. Geo. Sur. Ind. |
| Hm44,M9 | Rec. Mys. Geo. Dept. |
| Hm44,N | Ind. J.o. Geo. |
| Hm44,N2 | J.o.t. Hyder. Geo. Sur. |
| Hm44,N3 | B. Hyder. Geo. Sur. |
| Hm44,N30 | Q.J.o.t. Geo. Min. Metal. Soc. o.
India. |
| Hm44,N37 | B.o.t. Geo. Min. Metal. Soc. o.
India. |
| Hm44,N4 | Notes a. News. Min. Geo.
Metal. Inst. o. Ind. |

H1 MINERALOGY

- | | |
|----------|-------------------------------------|
| H1m44,N | Trans. o.t. Min. Geo. Inst. o. Ind. |
| H1m44,N4 | Ind. Min. o.t. Geo. Sur. o. Ind. |

I Botany

<i>Im</i> 44,M	Rec. Bot. Sur. o. Ind.
<i>Im</i> 44,N	B. Bot. Soc. Beng.
<i>Im</i> 44,N1	J.o.t. Ind. Bot. Soc.
<i>Im</i> 44,N2	J.o.t. Ind. Bot.

J Agriculture

<i>Jsm</i> 44,M	Agr. Statist. o. Ind.
<i>Jsm</i> 44,N	Tab. Agr. Statist. Assam.
<i>Jsm</i> 44,N4	J.o.t. Ind. Soc. Agr. Statist.
<i>Jm</i> 44,M	Trans. o.t. Agr. a. Hort. Soc. o. Cal.
<i>Jm</i> 44,M8	B.o.t. Dept. o. Agr. Bom.
<i>Jm</i> 44,M85	Mufid Muz. Agr. J.
<i>Jm</i> 44,N	Plant. Gaz. Ann.
<i>Jm</i> 44,N0	Plant. Chron. Mad.
<i>Jm</i> 44,N05	Proc. o.t. Board o. Agr. Ind.
<i>Jm</i> 44,N06	Agr. J.o. Ind.
<i>Jm</i> 44,N08	Poona Agr. Coll. Mag.
<i>Jm</i> 44,N09	Setki a. Setka
<i>Jm</i> 44,N1	Mad. Agr. J.
<i>Jm</i> 44,N14	Ind. Agr. World.
<i>Jm</i> 44,N15	Plant J.a. Agr.
<i>Jm</i> 44,N16	Mys. Agr. Callen.
<i>Jm</i> 44,N19	J.o.t. Mys. Agr. a. Experi. Union.
<i>Jm</i> 44,N2	Mys. Agr. J.
<i>Jm</i> 44,N25	Allah. Farm.
<i>Jm</i> 44,N26	Agr. Coll. Mag. Nag.
<i>Jm</i> 44,N3	J.o.t. Trich. Dist. Agr. Asso.
<i>Jm</i> 44,N311	Hyder. Farm.
<i>Jm</i> 44,N312	Ind. J.o. Agr. Sc.
<i>Jm</i> 44,N33	Kisan.
<i>Jm</i> 44,N36	Proc. o.t. Meet. o. Crop. a. Soil Wing. o.t. Board a. Agr. a. Animal Husband. Ind.
<i>Jm</i> 44,N39	Agr. Coll. Stud. Union. Mag.
<i>Jm</i> 44,N391	Krishna. Katha.
<i>Jm</i> 44,N4	Ind. Farm.
<i>Jm</i> 44,N43	Ind. J.o. Hort.
<i>Jm</i> 44,N45	Krishak.
<i>Jm</i> 44,N46	Agr. Sit. i. Ind.
<i>Jm</i> 44,N461	Konk. Krishi.
<i>Jm</i> 44,N47	Agr. News Letter.
<i>Jm</i> 44,N471	Apli. Shet.
<i>Jm</i> 44,N48	Kheti.
<i>Jm</i> 44,N481	Shetkari.

Jm44,N482	Shet. Sam.
Jm44,N483	Kis. K. Chit.
Jm44,N484	Kish. San.
Jm44,N49	Bih. Hort. Goc.
Jm44,N491	Kis. Sam.
Jm44,N492	Khed. Band.

J:2 MANURE

J:2m44,N	Fact.
J:2m44,N4	Comp. B.

J:4 DISEASE. PLANT

J:4m44,N	Ind. Phytopath.
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J:7 HARVESTING

J:7sm44,N	Est. o. Area Yield o. Prin. Crop. i. Ind.
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J:E. CHEMISTRY. AGRICULTURE

J:Em44,N	Mem. o.t. Dept. o. Agr. i. Ind. Chem. Ser.
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J:I. BOTANY. AGRICULTURE

J:1m44,N	Mem. o.t. Dept. o. Agr. i. Ind. Bacter. Ser.
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J451 TEA

J451sm44,M	Ind. Tea Statist.
J451m44,N	Q.J.o.t. Ind. Tea Asso.

J452 TOBACCO

J452m44,N	B.o.t. Ind. Tobac. Asso.
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J481 COFFEE

J481sm44,N	Ind. Coff. Statist.
J481m44,N	B.o.t. Ind. Coff. Board.
J481m44,N4	B.o.t. Coff. Exp. Station. Bang.

J718 RUBBER

J718sm44,N	Ind. Rub. Statist.
J718m44,M	Ind. Rub. World.

J741 JUTE

J741am44,N	Abst. o.t. Ind. Cent. Jute Com.
J741m44,N	Jute J. Cal.
J741m44,N3	B.o.t. Ind. Cent. Jute Com.
J741m44,N4	Jute B.

J771 COTTON

- | | |
|------------|--|
| J771am44,N | Abst. Proc. o.t. Ind. Cent. Cott. Com. |
| J771m44,N | Ind. Cott. Grow. Rev. |

J982 COCONUT

- | | |
|------------|---------------------------------|
| J982m44,N | B.i.b.t. Ind. Cent. Cocon. Com. |
| J982m44,N4 | Ind. Cocon. J. |

JA Forestry

- | | |
|----------|---------------------|
| JAm44,M | Ind. Forest. |
| JAm44,N | Ind. Forest. B. |
| JAm44,N1 | Ind. Forest. Rec. |
| JAm44,N2 | Junglewallah. |
| JAm44,N3 | Ind. Wild Life. |
| JAm44,N4 | Ind. Forest. Dehra. |

K Zoology

- | | |
|----------|-------------------------------|
| Km44,M | Rec. o.t. Ind. Zoo. Mus. |
| Km44,N | Mem. o.t. Ind. Zoo. Mus. |
| Km44,N0 | Rec. o.t. Ind. Mus. |
| Km44,N07 | Mem. o.t. Ind. Mus. |
| Km44,N09 | J.o. Ent. a. Zoo. |
| Km44,N4 | Proc. o.t. Zoo. Soc. o. Beng. |

K86 INSECTA

- | | |
|-----------|-----------------------------|
| K86am2,N | Cat. o. Ind. Insect. |
| K86m44,N | Ind. J.o. Ent. |
| K86m44,N4 | Mem. o.t. Ent. Soc. o. Ind. |

L Medicine

- | | |
|-----------|-----------------------------------|
| Lm44,M | Ind. Med. Gaz. |
| Lm44,M8 | Ind. Med. Rec. |
| Lm44,M84 | Sc. Mem. By. Med. Office. o.t. |
| | Arm. o. Ind. |
| Lm44,N | Cal. Med. J. |
| Lm44,N0 | Ind. Med. J. |
| Lm44,N1 | Ind. J.o. Med. Res. |
| Lm44,N2 | Ind. Med. Res. Mem. |
| Lm44,N21 | Mad. Med. Coll. Mag. |
| Lm44,N26 | J.o.t. Christ. Med. Asso. o. Ind. |
| Lm44,N261 | Patna J.o. Med. |
| Lm44,N27 | B.o.t. Med. Direct. o. Ind. |
| Lm44,N271 | J.o.t. Ind. Red Cr. Soc. |
| Lm44,N29 | B.o.t. South Ind. Med. Union. |
| Lm44,N3 | Ihd. Med. Rev. |

Lm44,N31	J.o.t. Ind. Med. Asso.
Lm44,N33	Med. Dig.
Lm44,N38	Cal. Med. Rev.
Lm44,N39	Beng. Pub. Heal. J.
Lm44,N4	Ind. Heal. Gaz.
Lm44,N41	Ann. o. Biochem. a. Exper. Med.
Lm44,N45	J.o.t. Ind. Arm. Med. Corps.
Lm44,N47	Ind. J.o. Med. Sc.
Lm44,N48	Heal. Orient. Watchman.
Lm44,N481	Sanjeevan.
Lm44,N49	Arog. Mandir.
Lm44,N491	Heal. a. Wealth.

L:3 PHYSIOLOGY

L:3m44,N	J.o.t. Physiol. Soc. o. Ind.
L:3m44,N4	Ind. Physiol.

L:4 DISEASE

L:4:1 Nursing

L:4:1m44,N	Nurs. J.o. Ind.
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L:4:625 RADIOTHERAPY

L:4:625m44,N	Ind. J.o. Radiother.
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L:4:7 Surgery

L:4:7m44,N	Antiseptic.
L:4:7m44,N3	Med. Surg. Sugg.
L:4:7m44,N31	Ind. J.o. Surg.

L:421 TUBERCULOSIS

L:421m44,N	J.o.t. Tub. Asso. o. Beng.
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L:5 PUBLIC HEALTH

L:5m44,N	Peop. Heal.
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L:573 Food

L:573m44,N	Food a. Nutr.
L:573m44,N4	Food B.
L:573m44,N47	Ind. Food Pack.
L:573m44,N49	Ahar.

L:6 PHARMACOGNOSY

L:6m44,N	Ind. a. East. Chem.
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L:68 PHARMACY

L:68m44,N	Ind. J.o. Pharm. o.t.
	Ind. Pharm. Asso.

L:68m44,N3 Ind. J.o. Pharm. o.t. U.P. Pharm.
Asso.

L:68m44,N4 Ind. Pharm.

L185 EYE

L185m44,N Ind. J.o. Ophth.

L214 TEETH

L214:4m44,N J.o. Ind. Dent. Asso.

L214:4m44,N4 Ind. Dent. Rev.

L32 HEART

L32m44,N Ind. Heart J.

L35:4261 MALARIA

L35:4261m44,N Rec. o.t. Malar. Sur. o. Ind.

L35:4261m44,N3 J.o.t. Malar. Inst. o. Ind.

L35:4261m44,N4 Ind. J.o. Malar.

L54:57 PERSONAL HYGIENE. SEX

L54:57m44,N Marr. Hyg.

L55:3 OBSTETRICS

L55:3m44,N J.o. Obst. a. Gynae. Soc. o. North.
Ind.

L55:4 WOMEN DISEASE

L55:4m44,N J.o.t. Asso. Med. Women i. Ind.

L55:4m44,N3 Ind. J.o. Ven. Dis. a. Dermat.

L87:4 DISEASE. SKIN

L87:4m44,N Lepr. i. Ind.

L87:4m44,N3 Lepr. Rev.

L91 CHILDREN

L91m44,N Ind. J.o. Pediat.

L91m44,N3 Child. Wel. i. Ind.

LL HOMEOPATHY

LLm44,N Mad. Homeopa. J.

M Useful Arts

Mm44,N Dhand. Shiksh. Mas.

Mm44,N4 B.o.t. Ind. Stand. Inst.

M13 PAPER MAKING

M13m44,N Ind. Pulp a. Pap.

M7 TEXTILES

M7m44,M Ind. Tex. J.

M71 COTTON TEXTILES

M71m44,N Bom. Cott. Ann.
M71m44,N2 Tech. B. S.A.
M71m44,N28 Tech. B. S.B.
M71m44,N3 Tech. Cir.
M71m44,N4 Review.

M95 PHOTOGRAPHY

M95m44,N Kod. Ind. Mag.

MK ANIMAL HUSBANDRY

MKm44,N Vet. Mag.
MKm44,N2 Ind. Vet. J.
MKm44,N3 Agr. a. Livest. i. Ind.
MKm44,N31 Ind. J.o. Vet. Sc.
MKm44,N33 Agr. a. Anim. Husb. i. Ind.
MKm44,N36 Proc. o.t. Meet. o.t. Anim. Husb.
Wing. o.t. Board. o. Agr. a. Anim.
Husb. Delhi.
MKm44,N4 Mad. Vet. Coll. Med. Asso.

MK31 DAIRY SCIENCE

MK31m44,N J.o. Dairy Sc.
MK31m44,N2 J.o.t. Cent. Bureau of Anim. Husb.
a. Dairy. i. Ind.
MK31m44,N3 Ind. Dairyman.
MK31m44,N4 Mon. B.o. Bang. Dairy Catt. Soc.
MK31m44,N48 Ind. J.o. Dairy Sc.

MK332 FISH

MK332m44,N B.o.t. Mad. Fish. Bureau.
MK332m44,N4 B. Dept. o. Fish. Baroda.

MK35 POULTRY

MK35m44,N Ind. Poult. Gaz.

MK442 HORSE

MK442m44,N Horse. i. Ind.

MK611 BEE

MK611m44,N Ind. Bee. J.

MK811 LAC

MK811m44,N B.o.t. Ind. Lac Res. Inst.

Δ Mysticism

Δ2m44,N

Div. Life.

N Fine Arts

Nm44,N

Silpi.

N02 INDIAN ART

N02m44,N

Roop. Lekh.

N02m44,N2

Rupam.

N02m44,N4

Marg.

N1 ARCHITECTURE

N1m44,N

J.o.t. Ind. Inst. o. Arch.

0 Literature

Om44,N

Ind. P.E.N.

0155 MARATHI

O155m44,N

Parag.

031 TAMIL

O31m44,N1

Tam. Poshil.

Q Religion**Q2 HINDUISM**

Q2m44,N

Ram. a. Rami.

Q2m44,N2

Vaid. Dhar.

Q2m44,N27

Kalyan.

Q2m44,N3

Kal. Kalpat.

Q2m44,N4

Advent.

Q3 JAINISM

Q3m44,N

Jain. Siddh. Bhas.

Q4 BUDDHISM

Q4m44,N

Buddh. Duta.

Q4m44,N5

Step. Stones.

Q6 CHRISTIANITY

Q6m44,M

Nat. Christ. Coun. Rev.

Q6m44,N

United Chur. Rev.

Q6m44,N4

Voice.

Q6m44,N48

Mash. Awaz.

Q7 ISLAM

Q7m44,N

Muslim Rev.

Q7m44,N2

Isl. Cult.

Q78M9 AHAMADIYAS
Q78M9m44,N Rev. o. Rel.

QM75 THEOSOPHY
QM75m44,M Theosophist.
QM75m44,N Theos. Mov.

R Philosophy
Rm44,M Maha. Bodh.
Rm44,N Phil. Q.
Rm44,N3 Rev. o. Phil. a. Rel.

R6 INDIAN PHILOSOPHY
R6m44,N Ved. Kesri.

R66/ADVAITA
R66m44,N Prab. Bharat.

S Psychology
Sm44,N Ind. J.o. Psych.

S5 SEX
S5m44,N Ind J.o. Sex.

SM95 PSYCHO-ANALYSIS
SM95m44,N Samika.

T Education
Tm44,N Teach. J.
Tm44,N2 Education.
Tm44,N24 Prog. o. Edu.
Tm44,N2 Stud. Out. New. Sheet.
Tm44,N29 Teaching.
Tm44,N3 B.o.t. Teach. Tr. Dept. Un. o. Cal.
Tm44,N39 Bharat Vid.
Tm44,N4 Beng. Edu. Gaz.
Tm44,N46 Mon. B.o.t. Dept. o. Edu. Govt. o.
Ind.
Tm44,N461 Shal. Pat.
Tm44,N47 Shikshak.
Tm44,N49 Adv. o. Edu.

T0Q6 CHRISTIAN EDUCATION
T0Q6m44,N Christ. Edu.

T15 PRE SECONDARY EDUCATION
T1m44,N Prath. Shiksh.

T3 ADULT EDUCATION

T3m44,N

Ind. J.o. Adult. Edu.

T68 EDUCATION. BLIND

T68m44,N

Deepavali.

U Geography

Um44,N

Ind. Geog. J.

Um44,N3

Cal. Geog. Rev.

U11 CARTOGRAPHY

U11m44,N

Map. Pub. Office. Work.

U2 PHYSICAL GEOGRAPHY

U2m44,N

Profess. Pap. Sur. o. Ind.

U2m44,N0

Rec, Sur. o. Ind.

U25 OCEANOGRAPHY

U25m44,N

Oceanite.

U2562 CURRENTS

U2562m44,M

Tide Tab. o.t. Ind. Ocean.

U28 METEOROLOGY

U28m44,M

Magn. Meteor. a. Seismo. Obs.

U28m44,M7

Mem. Ind. Meteor. Dept. Poona.

U28m44,M9

Meteor. i. Mys.

U28m44,N

Mys. Meteor. Mem.

U28m44,N2

Mem. o.t. Ind. Meteor. Dept.

U28m44,N27

Sc. Notes. Ind. Meteor. Dept. Poona.

U28m44,N28

Sc. Notes. Ind. Meteor. Dept. Delhi.

U28m44,N3

J.o.t. Osman. Un. Coll. Nizam. Obs.

U28m44,N39

Sc. Notes o.t. Ind. Meteor. Dept.

U281 WEATHER

U281m44,M

Ind. Weath. Rev. Ind. Meteor. Dept.
Poona.

U281m44,N

Ind. Weath. Rev.

U282 ATMOSPHERE

U282m44,N

Up. Air Data. Ind. Meteor. Dept.
Poona.

U282m44,N2

Up. Air Data. Ind. Meteor. Dept.
Delhi.

U2855 RAINFALL

U2855m44,M

Memo. Snow. a. Rain.

U2855m44,M9

Daily Rain. o. Ind.

U2855m44,M92 Memo. o. Rain. a. Weath. Cond.
o. Ind.
U2855m44,N Mon. Rain. o. Ind.

U296 IONOSPHERE

U296m44,N Iono. Data.

V History

V1 WORLD HISTORY

V1m44,N For. Rev.

V2 INDIAN HISTORY

V2m44,N J. o. Bharat Iti. Sam. Mand.
V2m44,N2 J. o. Ind. Hist.
V2m44,N25 Ind. Hist. Q.
V2m44,N26 J.o.t. Andhra Hist. Res. Soc.
V2m44,N4 Ind. Q.
V2m44,N46 Const. Assem. Ind. Debates.

V2:19 FOREIGN POLICY INDIA

V2:19058m44,N Ind. Soviet J.
V2:19073m44,N Ind. a. Amer.

V2:26 LOCAL GOVERNMENT. INDIA

V2:26m44,N Cal. Muni. Gaz.
V2:26m44,N3 Q.J.o.t. Local-Self Govt. Inst. Ind.

V2:7 ARCHAEOLOGY. INDIA

V2:7m44,N Mem. o.t. Archaeo. Sur. o. Ind.
V2:7m44,N4 Ancient Ind.

V2:72 EPIGRAPHY. INDIA

V2:72m44,M Epi. Ind. a. Rec. o.t. Archaeo.
Sur. o. Ind.

V2:73 NUMISMATICS

V2:73m44,N J.o.t. Numis. Soc. o. Ind.

V2:8 ARCHIVES. INDIA

V2:8m44,N Ind. Archives.

V231 BOMBAY. HISTORY

V231m44,N Bom. Legis. Coun. Debate.
V231m44,N3 Bom. Legis. Assem. Debate.

V236 PANJAB. HISTORY

V236m44,N J.o.t. Panj. Un. Hist. Soc.

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V252 UTTAR PRADESH. HISTORY

V252m44,N J.o.t. U.P. Hist. Soc.

V262 BENGAL

V262m44,N Beng. Past a. Pres.

W Political Science

Wm44,N Ind. J.o. Polt. Sc.

X Economics

Xsm44,N	Week. B.o. Statist.
Xsm44,N2	Statist. Abst. f. Br. Ind.
Xsm44,N4	B.o.t. Bureau o. Eco. a. Statist.
Xsm44,N48	Mon. Abst. o. Statist.
Xsm44,N49	Rec. a. Statist.
Xm44,M	Capital.
Xm44,N	Commerce.
Xm44,N1	Mys. Eco. J.
Xm44,N16	Ind. J.o. Eco.
Xm44,N2	Ind. Finan.
Xm44,N3	Mon. Sur. o. Bus. Cond. i. Ind.
Xm44,N39	Ind. Eco.
Xm44,N4	Naya. Dehati.
Xm44,N42	Comm. a. Indus.
Xm44,N43	East. Eco.
Xm44,N45	Arth. Jagat.
Xm44,N46	Artha.
Xm44,N46	Eco. Baro.
Xm44,N462	South Ind. J. Eco.
Xm44,N47	Tata Q.
Xm44,N48	Hyder. Govt. B.o. Eco. Aff.
Xm44,N49	Mys. Eco. Rev.
Xm44,N491	Eco. Week.

X:236 PANJAB

X:236m44,N Mon. Sur. o. Eco. Cond. i. East Panj.

X:322 LAND

X:322m44,N Land. J.

X:5 COMMERCE

X:5sm44,N	J.o. Comm. a. Statist.
X:5sm44,N3	Acct. Inland Tr. o. Ind.
X:5m44,N	J.o.t. Ind. Merch. Cham.
X:5m44,N3	Cur. Quot. o.t. Bom.
	Cham. o. Comm.

X: 5m44,N33	Comm. Gaz.
X: 5m44,N37	Comm. B.
X: 5m44,N4	Bom. Time a. J.o. Comm.
X: 5m44,N46	Vyap. Mahar.
X: 5m44,N47	Vyap. Ud.
X: 5m44,N48	Bus. Week.
X: 5m44,N481	Ind. J.o. Comm.
X: 5m44,N49	Vyap. Shim.

X: 51 MARKETING

X: 51m44,N	Ind. Mark. Rev.
X: 51m44,N4	For. Mark. Rev.

X: 517 MONOPOLY

X: 517--76sm44,N	Whol. Price o. Cer.
	Stap. Art. o. Tr. i. Ind.

X: 536 IMPORT DUTY

X: 536m44,N	Ind. Cust. Revenue.
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X: 54e: Z TRADE MARK

X: 54e: Zm44,N	Tr. Mark J.
X: 54e: Zm44,N4	Pat. Design a. Tr. Mark Rev.

X: 54 INTERNATIONAL TRADE

X: 54m44,N	Ind. Tr. J.
X: 54m44,N4	Ind. Tr. B.
X: 54sm44,M	Rev. o. t. Tr. o. Ind.
X: 54sm44,N	Acct. Sea. Tr. a. Nav. o. Ind.
X: 54sm44,N3	Acct. Coast. Tr. a. Nav. o. Br. Ind.
X: 54sm44,N32	Ann. St. Sea. Tr. o. Br. Ind.

X: 545 EXPORTS

X: 545m44,N	Bannerji. Mon. Ret. o. Shell.
	Export. f. Cal.
X: 545m44,N4	Ind. Export.

X: 9 LABOUR

X: 9m44,N	Lab. Gaz.
X: 9m44,N4	Ind. Lab. Gaz.
X: 9m44,N48	Lab. Intell.

X4 TRANSPORT

X4sm44,N4	Transp. Statist.
X4m44,N	Transp. Commu. Mon.
X4m44,N46	Mon. Sur. o. Transp. a. Commu.

X415 RAILWAYS

X415m44,N East Ind. Rail. Mag.
X415m44,N4 Ind. Rail. Gaz.

X42 WATER TRANSPORT

X42sm44,N Ret. o. Wrecks a. Casual.
i. Ind. Water.

X6 FINANCE

X6sm44,N Statist. Sum. o.t. Reser. Bank o.
Ind.
X6m44,N Finan. New.
X6m44,N4 Reser. Bank o. India. B.

X62 BANKING

X62sm44,N Statist. Tab. Rel. t. Bank. i. Ind.

X8 INSURANCE

X8m44,N Insur. World.

X9 INDUSTRIES

X9sm44,N Mon. Statist. o.t. Pro. o. Indus.
o. Ind.
X9m44,N Udyama.
X9m44,N3 Indus. Ind.
X9m44,N38 Ind. Indus.
X9m44,N4 Indus. a. Supp. B.
X9m44,N49 Indus. Court Rep.

X9FJ341:51 MARKETING. SUGAR

X9FJ341:51m44,N Gur. Mark. Rev.

X9FJ718 RUBBER INDUSTRY

X9FJ718m44,N Dunlop Gaz.

X9J AGRICULTURAL ECONOMICS

X9Jm44,N J.o. Farm Eco.
X9Jm44,N4 Ind. J. o. Agr. Eco.

X9J771:54 INTERNATIONAL TRADE. COTTON

X9J771sm44,N Raw Cott. Tr. Statist.

X9M71 COTTON INDUSTRY

X9M71sm44,N Mon. Statist. o. Cott. Spin. a.
Weav. i. Ind. Mills.

X9M71:54 INTERNATIONAL TRADE. COTTON TEXTILE

X9M71:54m44,N Rev. o.t. St. o. For. Tr. i. Ind.
Cott.

X9MJ452:51 MARKETING. TOBACCO

X9MJ452:51*m*44,N Guntur Toba. Mark. Com. B.

X9MJ741 JUTE INDUSTRY

X9MJ741*sm*44,N Mon. Sum. o. Jute a. Gun.
Statist.

X9MJ741*m*44,N B.o.t. Ind. Cent. Jute. Com.

XM25 CO-OPERATION

XM25*m*44,N Mad. J.o. Coop.
XM25*m*44,N1 Beng. Coop. J.
XM25*m*44,N15 J.o.t. Beng. Coop.
XM25*m*44,N17 Bom. Coop. Q.
XM25*m*44,N2 Bihar a. Orissa Coop. J.
XM25*m*44,N24 U.P. Coop. J.
XM25*m*44,N3 Ind. Coop. Rev.
XM25*m*44,N4 Orissa Coop. J.

XM55 JOINT STOCK COMPANY

XM55*m*44,N Jt. Stock Comp.

Y1 Sociology

Y1*m*44,M Ind. Soc. Ref.
Y1*m*44,N Soc. Ser. Q.
Y1*m*44,N3 Ind. Cult.
Y1*m*44,N4 Ind. J.o. Soc. Work.

Y115 WOMEN

Y115*m*44,N B.o. Nat. Coun. Women i. Ind.
Y115*m*44,N4 Ind. Women. Mag.

Y131 RURAL SOCIOLOGY

Y131*m*44,N Rur. Ind.
Y131*m*44,N4 Gram. Sudh.
Y131*m*44,N46 Gram. Ud. Pat.
Y131*m*44,N47 Gram. Ud.
Y131*m*44,N49 Gram. Raj.

Y17 ANTHROPOLOGY

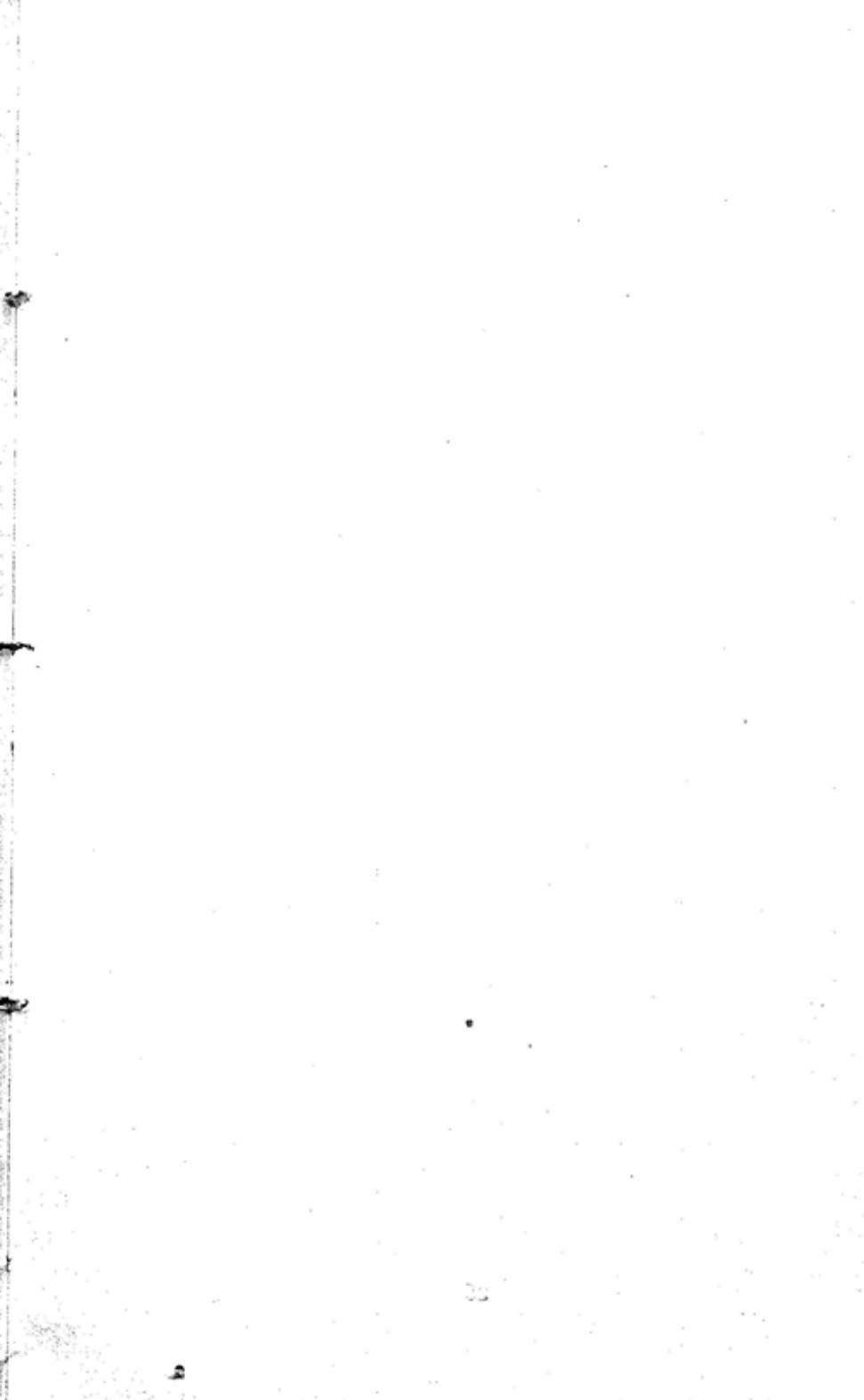
Y17*m*44,N J.o.t. Anthrop. Soc.
Y17*m*44,N2 Man. i. Ind.
Y17*m*44,N3 J.o.t. Ind. Anthrop. Inst.
Y17*m*44,N4 East. Anthrop.

Z Law

Zm44,M	Mad. Law J.
Zm44,N	Allah. Law J.
Zm44,N0	Cal. Week. Notes.
Zm44,N1	All Ind. Rep.
Zm44,N3	Oudh. App.
Zm44,N36	Sup. Court. J.
Zm44,N4	Ind. Law. Rev.

Z44q INDIAN STATUTES

Z44qm44,N	Curr. Ind. Stat.
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PAPER 222

PERIODICALS CURRENTLY TAKEN IN INDIA

P. N. KAULA

0 Introduction

[Gives an analysis of the periodicals currently taken in Indian libraries. The analysis is on the basis of the subject, the languages and the countries of origin.]

This paper has been prepared from the returns of holdings received by the Editors of the *Union catalogue of periodical publications in the libraries of South Asia*.

Table 0 gives the symbols used in tables 1 to 3 to denote the subjects.

Table 1 gives the result of the analysis. As shown in paper 223, 3,767 periodicals are currently taken in India, 87 of these are abstracting periodicals, 602 are Indian periodicals.

Table 2 gives the distribution by countries as derived from Table 1.

Table 3 gives the distribution by languages as derived from Table 1.

Table o

SYMBOLS DENOTING SUBJECTS

1—9	Generalia	Δ	Mysticism
A	Science (General)	N	Fine arts
B	Mathematics	O	Literature
C	Physics	P	Linguistics
D	Engineering	Q	Religion
E	Chemistry	R	Philosophy
F	Technology	S	Psychology
G	Biology	T	Education
H	Geology	U	Geography
I	Botany	V	History
J	Agriculture	W	Political science
K	Zoology	X	Economics
L	Medicine	Y	Social sciences
M	Useful arts	Z	Law
MK	Animal husbandry		

TABLE 1—Subject-Country-Language Distribution
ENGLISH

	International.	China.	Hong Kong.	Japan.	Siam.	Malay.	Indonesia.	Burma.	India.	Pakistan.	Ceylon.	Iran.	Iraq.	Afghanistan.	Korea.	Italy.	France.	Germany.	Great Britain.	Ireland.	Russia.	Turkey.	Switzerland.
I-9	11	1	...	1	...	1	...	1	78	2	...	...	1	...	...	...	1	...	...	72	1	5	1
A	...	4	...	5	3	1	...	...	25	...	1	...	...	...	...	...	...	...	...	36	5	1	1
B	...	1	...	4	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	16	...	...	...
C	...	1	...	2	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	5	...	...	...
D	1	...	...	...	...	28	1	...	...	2	...	...	...	...	...	...	136	...	...	...
E	...	1	...	1	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	30	...	...	...
F	...	2	...	2	...	...	...	...	13	...	...	...	...	...	...	...	...	...	...	92	...	...	...
G	...	3	...	1	...	...	...	...	9	...	...	...	...	...	...	...	...	...	...	32	1	...	...
H	...	3	...	3	...	...	...	...	12	...	...	...	...	...	1	...	...	...	...	19	...	...	...
I	...	1	...	2	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	20	...	...	...
J	1	4	...	9	...	2	2	...	56	1	4	...	...	...	...	5	...	1	...	70	1	...	...
K	...	1	...	1	...	6	1	...	9	6	...	...	...	...	...	...	...	...	...	30	...	...	...
L	5	1	...	...	...	1	1	...	64	...	1	...	...	...	...	...	...	...	...	110	3	...	...
M	3	...	...	11	...	...	...	...	...	...	...	...	...	...	24	...	...	...
MK	17	2	...	...	...	...	...	...	...	...	...	41	...	...	...

ENGLISH

	Holland.	Tanganyika.	Rhodesia.	Nyasaland.	South Africa.	Egypt.	Nigeria.	Kenya.	Uganda.	Mauritius.	East Africa.	Canada.	United States.	British Guiana.	Jamaica.	Australia.	Philippine.	Fiji.	New Zealand.	Hawaii.	Caroline Islands.	Total.
1-9	9	...	...	...	...	...	...	4	64	...	1	4	...	...	...	...	...	259
A	2	...	...	...	4	2	...	...	...	...	...	7	59	...	...	10	1	...	1	1	...	169
B	3	...	...	...	...	...	...	1	38	...	...	...	...	...	...	...	...	72
C	1	10	...	...	...	...	...	...	...	...	21
D	2	...	...	...	...	...	...	7	145	...	...	7	...	...	1	...	...	332
E	3	26	...	...	...	...	...	...	...	...	66
F	1	1	...	...	...	...	...	4	65	...	...	7	...	...	1	...	...	189
G	1	55	...	...	8	...	...	...	...	...	111
H	4	...	1	...	...	...	...	1	34	...	...	3	...	...	1	...	...	83
I	1	...	...	...	...	...	...	3	21	...	...	1	...	...	...	...	...	64
J	1	...	...	2	4	...	...	...	...	...	...	9	97	1	1	14	3	1	5	...	...	304
K	1	1	...	...	...	...	...	4	22	...	...	1	1	...	2	...	...	77
L	4	...	...	...	...	...	1	8	164	...	1	4	...	...	...	...	...	373
M	2	...	...	...	...	...	...	...	24	...	...	...	...	...	...	...	...	61
MK	4	...	...	...	...	...	...	6	29	...	...	8	...	...	2	...	...	110

PERIODICALS TAKEN IN INDIA

[PAPER 222]

	...	3	1	1	3	47	7	1	5	1	1	1	1	60	1,036	1	3	81	7	1	17	4	1	2,931
A	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
N	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
O	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
P	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Q	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
R	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
S	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
T	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
U	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
W	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
X	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Y	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Z	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	...	3	1	1	3	47	7	1	5	1	1	1	1	60	1,036	1	3	81	7	1	17	4	1	2,931

FRENCH

SPANISH

	China.	Indo-China.	France.	Russia.	Switzerland.	Belgium.	Belgian Congo.	Algeria.	West Africa.	Egypt.	Syria.	Tunisia.	Madagascar.	Ecuador.	Total.	Spain.	Mexico.	Argentina.	Chile.	Peru.	Venezuela.	Total.
I-9	3	...	...	1	...	...	...	...	...	...	1	...	5	...	2	...	...	...	1	3
A	...	1	12	5	4	1	...	...	...	...	...	...	...	...	23	1	1	1	1	...	...	3
B	11	1	4	1	...	...	...	...	...	...	...	...	17	...	...	...	...	...	...	...
C	6	...	3	...	...	...	...	...	...	...	...	...	9	...	...	...	...	...	...	...
D	5	...	1	1	...	...	...	...	...	...	...	...	5	...	...	3	...	...	...	...
E	8	2	1	1	...	...	...	...	...	...	...	...	12	...	1	...	1	...	...	...
F	2	...	1	1	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...
G	10	1	1	2	...	1	...	...	...	...	...	...	15	...	...	...	...	...	...	...
H	5	...	1	1	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...
I	11	...	1	4	...	...	...	...	...	1	...	...	16	...	...	...	...	...	...	...
J	10	...	1	1	2	...	...	...	...	...	...	...	14	1	...	...	...	1	...	...
K	9	1	2	5	...	...	...	...	...	...	...	...	18	...	...	...	...	...	...	...
L	...	1	21	...	...	2	...	1	...	...	...	...	...	...	25	1	...	...	...	...	...	...
M
MK	9	...	...	1	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...

PORTUGUESE GREEK SLAVONIC

	East Africa.	Goa.	Portugal.	Brazil.	Total.	Greece.	Cyprus.	Total.	Russian.	Bulgarian.	Yugoslavia (Slav).	Polish.	Czecho- slovakia.	Latvia.	Estonia.	Finland.	Total.	Rumanian.	Hungarian.	
1-9	2	2	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..
A	1	..	..	..	5	..	1	3	1	..	..	2	5	1	1	..
B	1	..	1	..	..	..	2	2	..	1	1	..	..	1	11	..	1	..
C	1	..	1	..	..	..	2	..	..	1	1	..	..	..	..	..	1	..
D	1	1	..	..	..	..	2	1	1	1	..	..	..	4	3	1	1
E	..	1	..	..	1	..	..	..	..	..	1	2	..	..	..	..	1	1	..	1
F	4	4	..	..	..	3	..	1	..	..	..	..	..	4	3	1	1
G	4	..	4	..	..	2	2	..	..	..	..	..	..	1	2	1	..	..
H	3	4	..	..	1	..	1	..	..	1	..	..	..	1	5	1	1
I	1	4	5	..	1	1	2	1	..	1	2	..	..	3	8	1	1	..
J	1	1	2	..	..	..	1	..	..	..	2	..	..	..	1	..	1	..
K	1	4	4	..	..	..	1	..	..	..	2	1	..	..	1	..	1	..
L	4	4	..	..	..	1	..	..	..	2	..	..	..	1	..	1	..
M	2	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..
NK	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

[illegible]

INDIAN SEMITIC OTHER ASIAN

	Sanskrit.	Hindi.	Gujarati.	Marathi.	Bengali.	Urdu.	Kanarese.	Total.	Turkish.	Hebrew.	Total.	Chinese.	Japanese.	Total.					Grand total.
1-9	3	10	1	6	3	5	2	30	1	..	1	..	..	..	..	..	..	..	304
A	1	1	..	..	..	..	..	..	..	..	..	..	231
B	135
C	49
D	355
E	105
F	208
G	1	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	158
H	104
I	1	..	1	..	..	..	..	..	..	109
J	..	8	1	5	1	1	..	14	..	1	1	1	..	1	..	..	..	..	377
K	126
L	..	1	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	430
M	65
MK	122
Δ	122

[illegible]

TABLE 2—Subject - Country Analysis

	China.	Hong Kong.	Japan.	Indo-China.	Siam.	Malay.	Indonesia.	Burma.	India.	Pakistan.	Ceylon.	Iran.	Palestine.	Iraq.	Afghanistan.	Syria.	Korea.	Greece.
1-9	1	...	1	...	...	1	...	1	108	2	...	...	...	1	...	...	...	...
A	4	...	5	1	3	1	...	...	26	...	1	...	...	...	...	...	...	...
B	1	...	4	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...
C	1	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
D	...	...	...	...	1	...	...	...	28	1	...	...	...	2	...	...	...	...
E	1	...	1	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...
F	2	...	2	...	...	...	...	...	13	...	...	...	...	...	...	...	...	...
G	3	...	2	...	...	...	1	...	10	...	...	...	...	...	...	...	...	...
H	3	...	3	...	...	...	1	...	12	...	...	...	...	...	...	...	...	...
I	1	...	2	...	...	2	2	...	4	1	1	...	...	...	...	...	...	...
J	5	...	6	...	1	6	2	...	70	6	4	...	1	...	...	...	...	...
K	2	...	1	...	...	1	2	...	9	...	...	...	...	...	...	...	...	...
L	1	...	...	1	...	3	...	...	65	...	...	1	...	...	...	...	...	...
M	...	...	...	...	...	...	...	...	11	...	...	1	...	...	...	...	...	...
NK	...	...	...	...	...	...	...	...	17	2	...	...	...	...	...	...	...	...

	Italy.	France.	Spain.	Portugal.	Germany.	Great Britain.	Ireland.	Sweden.	Denmark.	Norway.	Iceland.	Finland.	Russia.	Turkey.	Cyprus.	Rumania.	Bulgaria.	Yugoslavia.	Czechoslovakia.	Austria.
I-9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A	1	4	...	...	...	72	1	...	...	...	...	...	5	2	...	...	...	...	1	...
B	3	12	...	...	19	36	5	2	...	...	...	2	7	...	...	...	...	...	1	2
C	6	11	...	...	15	16	...	1	...	3	...	1	6	...	...	...	...	1	1	1
D	...	6	...	1	12	5	...	...	...	...	...	...	1	...	...	...	...	...	...	...
E	1	5	...	1	4	136	...	...	...	...	...	...	2	...	...	1	...	...	1	...
F	1	8	...	...	17	30	...	...	...	...	...	...	3	...	...	...	...	...	...	...
G	1	2	...	...	7	92	...	...	...	...	...	...	...	...	...	...	...	...	...	...
H	3	10	...	...	9	32	...	1	...	...	...	5	...	...	...	...	...	...	...	...
I	2	5	...	...	5	19	...	2	...	3	...	...	2	...	...	...	...	...	...	...
J	3	11	...	...	15	20	...	1	...	...	...	...	1	...	...	...	...	...	...	...
K	12	10	...	1	10	70	...	5	...	1	...	...	3	...	1	1	1	...	2	1
L	4	9	...	1	12	30	...	3	...	...	...	3	2	...	...	...	...	...	2	...
M	3	21	...	...	10	110	...	2	...	...	...	...	4	...	1	1	...	...	1	1
MK	...	...	...	...	2	24	...	...	...	...	...	...	1	...	...	...	...	...	...	...
	1	6	...	2	1	41	...	...	...	...	...	...	...	...	...	...	...	...	...	...

	Hungary.	Switzerland.	Poland.	Belgium.	Holland.	Latvia.	Estonia.	Tanganyika.	Rhodesia.	Nyasaland.	South Africa.	Belgian Congo.	French West Africa.	Nigeria.	Egypt.	Tripoli.	Tunisia.	Algeria.	Kenya.	Uganda.	East Africa.
I—9	5	...	...	...	...	...	9	...	...	...	2	...	...	...	...	...	...
A	...	1	...	1	5	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...
B	...	4	1	1	5	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...
C	...	6	3	1	5	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
D	...	3	1	...	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
E	...	2	1	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
F	...	1	2	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
G	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
H	...	1	...	...	4	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...
I	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
J	4	2	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...
K	...	1	...	1	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
L	...	3	1	5	3	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...
M	2	5	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...
MK	1	1	...	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...
...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

	Madagascar.	Mauritius.	Canada.	United States.	Mexico.	Uruguay.	Argentina.	Chile.	Peru.	Ecuador.	Venezuela.	British Guiana.	Brazil.	Jamaica.	Australia.	Philippine.	Fiji.	New Zealand.	Hawaii.	Caroline Islands.	Grand total.
1-9	1	...	4	64	2	...	...	...	...	...	1	...	2	1	4	...	...	...	...	...	307
A	7	59	1	...	1	1	...	...	...	...	...	...	10	1	...	2	1	...	231
B	1	38	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	135
C	1	10	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	49
D	7	145	1	...	3	1	...	...	...	...	...	...	7	...	...	1	...	...	355
E	3	26	...	...	...	...	...	...	...	...	4	...	...	...	...	...	...	...	105
F	4	65	1	...	...	...	...	...	...	...	...	...	7	...	...	1	...	...	208
G	1	55	...	...	...	...	...	...	...	...	...	...	8	...	...	...	...	...	158
H	1	34	...	...	...	...	...	...	...	...	3	...	3	...	...	...	...	...	104
I	3	21	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	109
J	9	97	...	...	...	...	1	...	...	...	4	1	14	3	1	5	...	...	377
K	4	22	...	...	...	...	...	...	...	...	1	...	1	1	...	...	...	...	126
L	8	164	...	...	...	...	...	...	...	...	4	1	4	...	...	2	...	...	425
M	24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65
MK	6	29	...	...	...	...	...	...	...	...	...	...	8	...	...	2	...	...	122

TABLE 3—Subject - Language Analysis

	English.	Dutch.	German.	Swedish.	Norwegian.	Danish.	Icelandic.	Italian.	French.	Spanish.	Portuguese.	Greek.	Rumanian.	Hungarian.	Slavonic.	Indian.	Semitic.	Chinese.	Japanese.	Total.
1-9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
A	159	4	...	...	...	...	...	1	5	3	2	...	...	...	1	30	1	...	...	307
B	169	3	21	8	...	...	...	3	23	3	...	...	1	...	5	1	...	...	...	231
C	74	5	17	1	...	...	...	6	17	...	1	...	...	...	11	...	...	...	...	135
D	21	2	13	...	...	2	...	9	9	...	1	...	...	1	1	...	...	...	...	49
E	332	2	4	...	...	...	...	1	5	5	1	...	...	1	4	...	...	...	...	355
F	66	1	20	...	...	...	...	1	12	...	1	...	1	...	3	...	...	...	...	105
G	189	1	7	...	...	...	...	1	3	1	4	...	...	1	1	...	...	...	...	208
H	111	5	15	1	...	...	...	1	15	...	...	...	...	...	4	1	...	...	1	158
I	83	1	5	2	3	...	...	3	7	...	...	...	...	2	...	...	...	...	...	104
J	64	2	17	2	...	...	...	1	16	...	4	...	...	1	1	...	...	...	...	109
K	304	2	11	5	1	...	...	2	14	2	5	1	1	...	5	16	1	1	...	377
L	77	4	12	5	...	...	...	7	18	...	2	...	...	...	8	...	...	...	...	126
M	373	3	13	2	...	...	...	4	25	1	4	...	1	...	1	1	1	...	...	425
N	61	1	2	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	65
ME	110	1	1	...	...	...	...	1	7	...	2	...	...	...	...	...	...	...	...	122

PERIODICALS TAKEN IN INDIA

[PAPER 222]

[illegible]

PAPER 223

**BIBLIOGRAPHICAL PERIODICALS CURRENTLY
TAKEN IN INDIA**

P. N. KAULA AND T. N. KORANNE

[Gives a list of 87 abstracting periodicals believed to be taken in India. German and Japanese publications are included in the hope that they will be revived.]

From the returns received from the important libraries in India by the Editors of the *Union catalogue of periodical publications in the libraries of South Asia* being compiled on behalf of the Indian Library Association and the Unesco Science Co-operation Office, the following list of abstracting periodicals, currently taken in India, has been prepared. They are 87 in number. They are featured in Part 1 in a classified order according to the Colon Classification. Part 2 gives an alphabetical key to Part 1.

Part 1

Classified List

1 Bibliography

	14 Books
14m594,N	Erasmus.
14m73,N	Bk. Abroad.
14:156mM	Bookseller.
14:156mN	Tim. Lit. Sup.
14:156mN3	Aslib. Bk. List.
14:156mN4	Br. Bk. News.
14:173mM	Pub. Weekly.
14:173mN	Bk. List.
14:173mN0	Bk. Rev. Dig.
14:173mN4	U.S. Q. Bk. List.
14:3111m73,M	Cum. Bk. Index.
14:3155m44,N	Marathichiye Nagari.
14:4594:N19m	Mon. List. o. Bk.
	Cat. i.t. Lib. o. U.N.

2 Library Science

2am73,N	Lib. Lit.
---------	-----------

5 Periodicals (General)

556aN	Sub. Index. t. Per.
-------	---------------------

A Science

Aam42,N	Abst. f.t. B. Inst. o. Phy. a. Chem.
	Research. Tokyo.
Aam44,N	Build. Sc. Abst.
Aam73,N	Abst. o. Sc. a. Tech. Press.
Aam73,N3	Tech. Bk. Rev. Index.
Aam73,N4	Bib. o. Tech. Rep.
Aam8,N	Aust. Sc. Abst.

B Mathematics

Bam53,M	B.D.Sc. Math. Pt. 2. Rev. d. Pub.
Bam55,N	Zent. f. Math. n.f. Gren.
Bam73,N	Math. Rev.

B7 MECHANICS

B7am55,N	Zent. f. Mech.
----------	----------------

B9 ASTRONOMY

B9am42,N	Jap. J.o. Astr. a. Geophy. Abst.
----------	----------------------------------

C Physics

Cam42,N	Jap. J.o. Phy. Abst.
Cam53,M	J.d. Phy. e.l. Rad. Rev. Bibl.
Cam55,M7	Beibl. z.d. An. d. Phy.
Cam55,N	Phy. Ber.
Cam56,M9	Sc. Abst. A. Phy. Abst.

C293 NUCLEAR PHYSICS

C293am73,N	Nuc. Sc. Abst.
------------	----------------

D Engineering

D1 BUILDING

D1am56,N	Build. Sc. Abst.
----------	------------------

D2 IRRIGATION

D2am44,N	Abst. o.t. Cen. Board o. Irr. Simla.
----------	---

D4 TRANSPORT

D411am56,N	D411 Highways Road Abst.
------------	-----------------------------

D6 MECHANICAL ENGINEERING

D6am73,N	App. Mech. Rev.
----------	-----------------

D66 ELECTRICAL ENGINEERING

D66am56,N	Sc. Abst. B. Electr. Eng.
-----------	---------------------------

D8 SANITARY ENGINEERING

D8am73,N	Pub. Health. Eng. Abst.
----------	-------------------------

E Chemistry

Eam56,N	Br. Abst. AI, AII and AIII.
Eam73,N	Chem. Abst.

E3 ANALYTICAL CHEMISTRY

E3am56,N	Br. Abst. C.
----------	--------------

F Technology

Fam56,N	Br. Abst. BI, BII and BIII.
---------	-----------------------------

F191 METALLURGY

F191am56,N	Metal. Abst.
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- F55 Fuel
F55am56,N Fuel Abst.
F58 Dyes
F5895 Paints
F5895am73,N Rev. o. Cur. Lit. Relat. t. Paint
Varn: a. Allied Indust.
FM1 Paper
FM1am73,N Bul. Inst. o. Pap. Chem.
G Biology
Gam73,N Bio. Abst.
G:6 Genetics
G:6am5962,N Bibl. Gene.
H Geology
Ham73,N Bibl. a. Index o. Geo.
H1 MINERALOGY
H1am56,N Mine. Abst.
H7 ECONOMIC GEOLOGY
H7am73,N Ann. Bibl. o. Eco. Geo.
I Botany
Iam55,N Bibl. d. Pflanz.
Iam73,N Plant Sc. Lit.
J Agriculture
Jam56,N Herb. Abst.
Jam56,N3 Bibl. o. Soil Sc. Fert. Fen. Agri.
Jam56,N37 Bibl. o. Ref. t. Lit. o. Agr. a.
Allied Sub.
Jam56,N4 Field Crop. Abst.
Jam58,N Abst. a. Bibl. (Lenin Aca. of Agr.
Sc.).
Jam73,N Agr. Index.
Jam73,N4 Bibl. o. Agr.
J:G:6 Breeding
J:G:6am56,N Plant Breed. Abst.

J1 HORTICULTURE

J1am56,N

Hort. Abst.

J741 Jute

J741am44,N

Abst. o.t. Cent. Jute. Com.

J771 Cotton

J771am44,N

Abst. Proc. o. Ind. Cent. Cot. Com.

JA Forestry

JAam56,N

Forest. Abst.

K Zoology

K6 WORMS

K6am56,N

Helm. Abst.

K86 INSECTS

K86am44,N

Cat. o. Ind. Ins.

L Medicine

Lam73,N

Q. Cum. Index Med.

L:4:7 SURGERY

L:4:7am73,N

Int. Abst. o. Surg.

L:5 PUBLIC HEALTH

L:573 Food

L:573am56,N

Index Lit. Food Invest.

L:573am56,N3

Nut. Abst. a. Rev.

L:6 PHARMACOGNOSY

L:6am73,N

Pharm. Abst.

M Useful Arts

Mam56,N

Indust. Art. Index.

MK Animal Husbandry

MK:G:6 Breeding

MK:G:6am56,N

Animal Breed. Abst.

MK31 DAIRY SCIENCE

MK31am56,N

List. o. Ref. f. Cur. Lit. (Nat. Inst.
f. Research i. Dairy. Sc.).

MK31am56,N3

Dairy Sc. Abst.

S Psychology

Sam73,N

Psych. Abst.

T Education

Tam73,N Edu. Index.

U Geography

U25 Oceanography

U25am52,N Bibl. Ocean.

U28 Meteorology

U28am53,N Bibl. Gen. d. Trav. d. Meteor.

U28am56,N Bibl. o. Meteor. Lit.

X Economics

X7 PUBLIC FINANCE

X7am596,N B. f. Int. Fis. Docu.

X9J AGRICULTURAL ECONOMICS

X9Jam52,N Int. Bibl. o. Agr. Eco.

Y1 Sociology

Y1:5 POPULATION

Y1:5am73,N Popu. Index.

Y17 ANTHROPOLOGY

Y17am55,N Kat. d. Ethno. Reich. Mus.

Y17am74,N B. Bibl. d. Anthro. Amer.

Z Law

Zam73,N Index. t. Leg. Per.

Part 2

Alphabetical Index to Part 1

Abst. B. Inst. Phy. Chem. Res. Tokyo.	Aam42,N
Abst. Bibl. Lenin Aca. Agr. Sc.	Jam58,N
Abst. Cent. Board Irr. India.	D2am44,N
Abst. Ind. Cent. Jute Com.	J741am44,N
Abst. Ind. Cent. Cot. Com.	J771am44,N
Abst. Sc. Tech. Press.	Aam73,N
ABSTRACTS	am
AGR. ECO.	X9J
Agr. Index.	Jam73,N
AGRICULTURE	J
ANA. CHEM.	E3
Animal Breed. Abst.	MK:G:6am56,N
Ann. Bibl. Eco. Geo.	H7am73,N
ANTHROPOLOGY	Y17
App. Mech. Rev.	D6am73,N
Aslib Bk. List	14:156mN3
ASTRONOMY	B9
Aust. Sc. Abst.	Aam8,N
B. Inst. Pap. Chem.	FM1am73,N
B. Int. Fis. Docu.	X7am596,N
B. Sc. Math. Pt. 2, Rev. Pub.	Bam53,M
Beibl. Ann. Phy.	Cam55,M7
Bibl. Agr.	Jam73,N4
Bibl. Gen. Trav. Meteor.	U28am53,N
Bibl. Genet.	G:6am5962,N
Bibl. Index Geo.	Ham73,N
Bibl. Meteor. Lit.	U28am56,N
Bibl. Ocean.	U25am52,N
Bibl. Pflanz.	Iam55,N
Bibl. Ref. Lit. Agr. Allied Sub.	Jam56,N
Bibl. Tech. Rep.	Aam73,N
BIBLIOGRAPHY.	Z1
Bio. Abst.	Gam73,N
BIOLOGY.	G
B. Bibl. Anthro. Amer.	Y17am74,N
Bk. Abroad.	14m73,N
BK. BIBL.	14

Bk. List	14:173mN
Bk. Seller.	14:156mM
BOTANY	I
Bk. Rev. Dig.	14:173mN0
Br. Abst.	Eam56,N
Br. Abst. BI, BII and BIII.	Fam56,N2
Br. Abst. C.	E3am56,N
Br. Bk. News.	14:156mN4
BREED. AGR.	J:G:6
BREED. VET. Sc.	MK:G:6
BUILD. ENG.	D1
Build. Sc. Abst.	D1am56,N
Cat. Ind. Ins.	K86am44,N
CHEMISTRY	E
Chem. Abst.	Eam73,N
COT. AGR.	J771
Cum. Bk. Index.	14:3111m73,M
DAIRY. Sc.	MK31
Dairy Sc. Abst.	MK31am56,N
DISEASE. MED.	L:4
DYES.	F58
ECO. GEO.	H7
ECONOMICS.	X
Edu. Index.	Tam73,N
EDUCATION.	T
Elect. Eng.	D66
ENGINEERING.	D
Erasmus	14m594,N
Field Crop. Abst.	Jam56,N4
FOOD.	L:573
Forest. Abst.	JAam56,N
FORESTRY.	JA
Fuel Abst.	F55am56,N
FUEL. TECH.	F55
GENETICS.	G:6
GEOGRAPHY.	U
GEOLOGY.	H
Helm. Abst.	K6am56,N
Herb. Abst.	Jam56,N
HIGHWAYS. ENG.	D411

Hort. Abst.	J1am56,N
HORTICULTURE.	J1
Ind. Sc. Abst.	Aam44,N
Index Leg. Per.	Zam73,N
Index Lit. Food Invest.	L: 573am56,N
Indust. Art. Index.	Mam56,N
IRRI. ENG.	D2
INSECTA.	K86
Int. Abst. Surg.	L: 4:7am73,N
Int. Bibl. Agr. Eco.	X9Jam52,N
J. Phy. Rad. Rev. Bibl.	Cam53,M
Jap. J. Astr. Geophy. Abst.	B9am42,N
Jap. J. Phy. Abst.	Cam42,N
JUTE. AGRICULTURE.	J741
Kat. Ethno. Reichs. Mus.	Y17am55,N
LAW.	Z
Lib. Lit.	2am73,N
LIB. SC.	2
List Ref. Cur. Lit. Nat. Inst. Research.	MK31am56,N
Marathichiye Nagari.	14: 3155m44,N
Math. Rev.	Bam73,N
MATHEMATICS.	B
MECH. ENG.	D6
MECHANICS.	B7
MEDICINE.	L
Metal. Abst.	F191am56,N
METALLURGY.	F191
METEOROLOGY	U28
Mine. Abst.	H1am56,N
MINERALOGY.	H1
Mon. List. Bk. Cat. Lib. U.N.	14: 4594: N19m
NUC. PHY.	C293
Nuc. Sc. Abst.	C293am73,N
Nut. Abst. Rev.	L: 573am56,N3
OCEANOGRAPHY.	U25
PAINTS.	D5895
PAPER. TECH.	FM1
PERIODICAL.	m
PER. GEN.	5
Pharm. Abst.	L: 6am73,N

BIBLIOG. PERIODICALS TAKEN IN INDIA [PAPER 223]

PHARMACOGNOSY.	L:6
PHYSICS.	C
Phy. Ber.	Cam55,N
Plant Breed. Abst.	J:G:6am56,N
Plant Sc. Lit.	Iam73,N
POPULATION.	Y1:5
Popu. Index.	Y1:5am73,N
Psych. Abst.	Sam73,N
PSYCHOLOGY.	S
PUB. FIN.	X7
PUB. HEALTH.	L:5
Pub. Health. Eng. Abst.	D8am73,N
Pub. Week.	14:173mM
Q. Cum Index Med.	Lam73,N
Rev. Cur. Lit. Relat. Paint, Varn. Allied Indust.	F5895am73,N
Road Abst.	D411am56,N
SANITARY ENG.	D8
SOCIOLOGY.	Y1
Sc. Abst. A. Phy. Abst.	Cam56,M9
Sc. Abst. B. Electr. Eng.	D66am56,N
SCIENCE.	A
Sub. Index Per.	556aN
SURGERY.	L:4:7
Tech. Bk. Rev. Index.	Aam73,N3
TECHNOLOGY.	F
Tim. Lit. Sup.	14:156mN
TRANS. ENG.	D4
U.S. Q. Bk. List.	14:173mN4
USEFUL ARTS.	M
VERMES.	K6
VET. SC.	MK
Zent. Math. Gren.	Bam55,N
Zent. Mech.	B7am55,N
ZOOLOGY.	K

INDIAN PERIODICALS ABSTRACTED IN FOREIGN ABSTRACTING PERIODICALS

K. D. PURANIK AND S. P. PHADNIS

[Gives statistics of Indian periodicals abstracted, mentions the abstracting periodicals in which 120 Indian periodicals are abstracted and the Indian periodicals abstracted in each of 11 abstracting periodicals.]

0 Introduction

The following abstracting periodicals were consulted to find out the names of the Indian periodicals at present abstracted by them.

- | | |
|--------------------------------|--|
| 1. Lib. lit. (1950) | 8. Bibliog. soil sc., fertilizers and general agronomy (1944-47) |
| 2. Math. rev. (1948) | |
| 3. Physics absts. (1950) | |
| 4. Br. absts. (1945) | 9. Helminth. absts. (1949) |
| 5. Chem. absts. (1946) | 10. Psychol. absts. (1949) |
| 6. Biol. absts. (1947) | 11. Index to leg. pers. (1950) |
| 7. Plant-breedg. absts. (1949) | |

01. The result of the search is given in three statements:

1. Statistics of the Indian Periodicals in the different main classes, abstracted in the foreign abstracting periodicals;
2. Names of 120 Indian Periodicals arranged in classified order with the names of the foreign abstracting periodicals in which they are being abstracted; and
3. Names of the 11 foreign abstracting periodicals in classified order with the names of the Indian periodicals abstracted in them.

02. The classified arrangement is according to the latest practice in Colon Classification.

03. The names of periodicals are given in an abbreviated form to save space.

04. Information about any other Indian Periodicals, which have escaped notice in the statements, will be gratefully received and incorporated in the Card List maintained by the Indian Library Association.

05. It is believed that the data furnished in this paper will be of some use in the designing of the *Indian subject bibliography*.

Statement 1

Statistics of Indian Periodicals Abstracted

C.C. No.	Subject.				No. of pers.
2	Library Science	..	..	..	2
5	Generalia Periodical	..	..	..	11
A	Science (General)	..	..	..	15
B	Mathematics	..	..	..	4
C	Physics	..	..	..	1
D	Engineering	..	..	..	5
E	Chemistry	..	..	..	6
F	Technology	..	..	..	3
G	Biology	..	..	..	3
H	Geology	..	..	..	8
I	Botany	..	..	..	2
J	Agriculture	..	..	..	22
JA	Forestry	..	..	..	3
K	Zoology	..	..	..	3
L	Medicine	..	..	..	13
M	Useful Arts	..	..	..	3
MK	Veterinary Science	..	..	..	5
S	Psychology	..	..	..	2
T	Education	..	..	..	1
U	Geography	..	..	..	2
X	Economics	..	..	..	4
Z	Law	..	..	..	2
Total					120

Statement 2

Where Indian Periodicals are Abstracted

A.=Annals.	An.=Annual.	B.=Bulletin.	J.=Journal.	Q.=Quarterly.	Sts.=Studies.
C.C.No.	Indian Periodical		Abstracting Periodical		
	Name of Ind. Per.		C.C.No.	Name of Abstrg. Per.	
2 Library Science					
2m44,N3	Abgila.		2am73,N	Lib. Lit.	
2m44,N4	Ind. Lib.		2am73,N	Lib. Lit.	
5 Generalia					
544,L,1	Yrbk. Roy. Asia. Soc. Bengal.		Eam73,N	Chem. Abst.	
544,M	J. Mad. Univ.		Bam73,N	Math. Rev.	
544,M5	J. Univ. Bom.		Bam73,N	Math. Rev.	
			Cam56,M	Phy. Abst.	
			Eam56,N	Br. Abst.	
			Eam73,N	Chem. Abst.	
			Gam73,N	Biol. Abst.	
			Jam56,N3	Bib. Soil Sc. Fert. Gen. Agro.	
			Gam73,N	Biol. Abst.	
			Bam73,N	Math. Rev.	
			Eam73,N	Chem. Abst.	
			Bam73,N	Math. Rev.	
			Eam56,N	Br. Abst.	
			Eam56,N	Br. Abst.	
			Eam73,N	Chem. Abst.	
			Eam73,N	Chem. Abst.	
544,M8	Alla. Univ. Sts.				
544,N	J. Benaras H. Univ.				
544,N1	J. Mysore Univ.				
544,N17	Patna Univ. J.				
544,N18	J. Osm. Univ.				
544,N2	Nag. Univ. J.				

544,N28	J. Anna. Univ.	Ban73,N Eam56,N Ban73,N	Math. Rev. Br. Abst. Math. Rev.
544,N3	New Ind. Antiq.		
Am44,L Am44,M	J. Roy. Asia. Soc. Bengal. Sc. Proc. Sc. Assn. Maha. Col. Vizianagaram.	Eam73,N	Chem. Abst.
Am44,N1	Proc. Ind. Sc. Cong.	Eam56,N Eam73,N Gam73,N	Br. Abst. Chem. Abst. Biol. Abst.
Am44,N17	Trans. Bose. Res. Inst.	Eam56,N Eam73,N Gam73,N	Br. Abst. Chem. Abst. Biol. Abst.
Am44,N18	Q. J. Ind. Inst. Sc.	Jam56,N Ban73,N Cam56,M Eam56,N Eam73,N Jam56,N3 Ban73,N Eam73,N Gam73,N Ban73,N Eam56,N Eam73,N Gam73,N Jam56,N3 J:G:Gam56,N	Bib. Soil Sc. Fert. Fen. Agro. Math. Rev. Phy. Abst. Br. Abst. Chem. Abst. Bib. Soil Sc. Fert. Gen. Agro. Math. Rev. Chem. Abst. Biol. Abst. Math. Rev. Br. Abst. Chem. Abst. Biol. Abst. Bib. Soil Sc. Fert. Fen. Agro. Pl. Br. Abst.
Am44,N2	H. Y. J. Mys. Univ.		
Am44,N3	Proc. Natl. Acad. Sc.		

A Science (General)

C.C.No.	Name of Ind. Per. Cur. Sc.	C.C.No.	Name of Abstg. Per.
Am44,N32		Bam73,N Cam56,M Eam73,N Gam73,N Jam56,N3 J:G:6am56,N K6am56,N	Math. Rev. Psy. Abst. Chem. Abst. Biol. Abst. Bib. Soil Sc. Fert. Fen. Agro. Pl. Br. Abst. Helmin. Abst.
Am44,N34	Proc. Ind. Acad. Sc.	Bam73,N Cam56,M Eam56,N Eam73,N Gam73,N Jam56,N3 J:G:6am56,N	Math. Rev. Phy. Abst. Br. Abst. Chem. Abst. Biol. Abst. Bib. Soil Sc. Fert. Fen. Agro. Pl. Br. Abst.
Am44,N35	Trans. Natl. Inst. Sc. Ind.	Bam73,N	Math. Rev.
Am44,N35,1	Proc. Natl. Inst. Sc. Ind.	Bam73,N Cam56,M Eam73,N J:G:6am56,N	Math. Rev. Phy. Abst. Chem. Abst. Pl. Br. Abst.
Am44,N351	J. Sc. Tech.	Eam56,N Eam73,N	Br. Abst. Chem. Abst.

Am44,N352	Sc. Cul.	Bam73,N Eam56,N Eam73,N Gam73,N Jam56,N3 J: G: 6am56,N Cam56,M Eam56,N Eam73,N Jam56,N3 Eam73,N	Math. Rev. Br. Abst. Chem. Abst. Biol. Abst. Bib. Soil Sc. Fert. Fen. Agro. Pl. Br. Abst. Phy. Abst. Br. Abst. Chem. Abst. Bib. Soil Sc. Fert. Fen. Agro. Chem. Abst.
Am44,N42	J. Sc. Indus. Res.		
Am44,N46	B. Patna Sc. Col. Phil. Soc.		

B Mathematics

Bm44,N Bm44,N0	J. Ind. Math. Soc. B. Cal. Math. Soc.	Bam73,N Bam73,N Cam56,M J: G: 6am56,N Bam73,N Bam73,N	Math. Rev. Math. Rev. Phy. Abst. Pl. Br. Abst. Math. Rev. Math. Rev.
Bm44,N1 B28m44,N	Proc. Benaras Math. Soc. Sankhya: Ind. J. Stat.		
Cm44,M	Ind. J. Phy. (Proc. Ind. Assn. Cult. Sc.)	Bam73,N Cam56,M Eam56,N Eam73,N Jam56,N3	Math. Rev. Phy. Abst. Br. Abst. Chem. Abst. Bib. Soil Sc. Fert. Fen. Agro.

C Physics

D Engineering

C.C.No.	Name of Ind. Per.	C.C.No.	Name of Abstg. Per.
Dm44,M Dm44,M1	Ind. East. Engi. J. Inst. Engi. Ind.	Eam73,N Eam73,N	Chem. Abst. Chem. Abst.
D16m44,N	Ind. Conc. J.	D16 Concrete	Chem. Abst.
D2m44,N	Punj. Irri. Res. Inst.	D2 Irrigation Jam56,N3	Bib. Soil Sc. Fert. Fen. Agro.
D66m44,N	Elec. Tech. (Ind. Inst. Sc.)	D66 Electrical Engineering Cam56,M Eam73,N	Phy. Abst. Chem. Abst.

E Chemistry

Em44,N2	J. Ind. Chem. Soc.	Eam56,N Eam73,N Gam73,N	Br. Abst. Chem. Abst. Biol. Abst.
Em44,N3	Rasayanam.	Eam56,N Eam73,N	Br. Abst. Chem. Abst.
Em44,N4	J. Proc. Inst. Chem. Ind.	Eam56,N Eam73,N	Br. Abst. Chem. Abst.

E7 Biochemistry

- | | | | |
|-----------------------|---|-------------------------------|---|
| E7m44,N | A. Biochem. Exp. Med. | Eam56,N
Eam73,N
Gam73,N | Br. Abst.
Chem. Abst.
Biol. Abst. |
| E7m44,N3
E7m44,N36 | An. Rev. Biochem. alli. res. Ind.
Proc. Soc. Biolo. Chem. Ind. | Eam73,N
Eam56,N
Eam73,N | Chem. Abst.
Br. Abst.
Chem. Abst. |

F Technology

- | | | | |
|-----------------------|---|--------------------------------|--|
| Fm44,N2 | J. Ind. Chem. Soc. Indus. News. Edn. | Eam56,N
Eam73,N
Jam56,N3 | Br. Abst.
Chem. Abst.
Bib. Soil Sc. Fert. Fen. Agro. |
| Fm44,N3
F9496m44,N | Proc. Sug. Tech. Assn. Ind.
Ind. Soap J. | Eam73,N
Eam73,N | Chem. Abst.
Chem. Abst. |

G Biology

- | | | | |
|--------|-------------------------------------|--------------------|----------------------------|
| Gm44,M | J. Bom. Nat. His. Soc. | Eam73,N
Gam73,N | Chem. Abst.
Biol. Abst. |
| Gm44,N | Proc. Assn. Eco. Biolo. Coimbatore. | Eam73,N | Chem. Abst. |

G6 Genetics

- | | | | |
|---------|-----------------------|------------------------|------------------------------|
| G:6m44, | Ind. J. Gene. Pl.-Br. | Gam73,N
J:G:6am56,N | Biol. Abst.
Pl.-Br. Abst. |
|---------|-----------------------|------------------------|------------------------------|

C.C.No.	Name of Ind. Per.	C.C.No.	Name of Abstg. Per.
J741m44,N	B. Ind. Cen. Jute Com.	J741 Jute	
J741m44,N,1	Agri. Res. B. Ind. Cen. Jute Com.	J:G:6am56,N	Pl. Br. Abst.
		J:G:6am56,N	Pl. Br. Abst.
J771m44,N2	Tech. B. Ind. Cen. Cot. Com. Tech. Lab.	J771 Cotton	Chem. Abst.
J771m44,N4	Ind. Cot. Gro. Reu.	J:G:6am56,N	Pl. Br. Abst.
		J:G:6am56,N	Pl. Br. Abst.
JAm44,M	Ind. For.	Jam56,N3	Bib. Soil Sc. Fert. Fen. Agro.
		JA FORESTRY	
		Eam73,N	Chem. Abst.
		Gam73,N	Biol. Abst.
		Jam56,N3	Bib. Soil Sc. Fert. Fen. Agro.
JAm44,N	For. Res. Inst. D. Dun. Ind. For. Leaf.	J:G:6am56,N	Pl. Br. Abst.
JAm44,N3	Ind. For. Rec.	Eam73,N	Chem. Abst.
		J:G:6am56,N	Pl. Br. Abst.
		Eam73,N	Chem. Abst.
Km44,N	Rec. Ind. Mus.	K Zoology	
		K6am56,N	Helmin. Abst.
K6m44,N4	Ind. J. Helmin.	K6 HELMINTHOLOGY	
		K6am56,N	Helmin. Abst.
K86m44,N3	Ind. J. Ento.	K86 ENTOMOLOGY	
		Eam73,N	Chem. Abst.
		Gam73,N	Biol. Abst.

L Medicine

Lm44,M	Ind. Med. Gaz.	Eam56,N Eam73,N Gam73,N K6am56,N	Br. Abst. Chem. Abst. Biol. Abst. Helmin. Abst.
Lm44,M9 Lm44,N Lm44,N0	Ind. Med. Rec. Antiseptic Cal. Med. J.	Eam73,N Gam73,N Eam73,N Gam73,N	Chem. Abst. Biol. Abst. Chem. Abst. Biol. Abst.
Lm44,N1	Ind. J. Med. Res.	Eam56,N Eam73,N Gam73,N	Br. Abst. Chem. Abst. Biol. Abst.
Lm44,N1,1	Ind. Med. Res. Mem.	Eam73,N Gam73,N	Chem. Abst. Biol. Abst.
Lm44,N3 Lm44,	J. Ind. Med. Assn. Ind. J. Med. Sc.	Eam73,N K6am56,N	Chem. Abst. Helmin. Abst.
L:42m44,N	Ind. J. Ven. Dis. Dermats.	L:42 Venereal Disease Gam73,N	Biol. Abst.
L:5m44,N	Bengal Pub. Health J.	L:5 Public Health Eam73,N	Chem. Abst.
L185:4m44,N	Ind. J. Ophthalm.	L185 Ophthalmology Eam56,N	Br. Abst.

C.C.No.	Name of Ind. Per.	C.C.No.	Name of Abstr. Per.
L35:436m44,N	J. Mal. Inst. Ind.	L35:436 Malaria	Br. Abst. Chem. Abst. Biol. Abst.
L91m44,N	Ind. J. Pediat.	L91 CHILD MEDICINE	Biol. Abst.
M143m44,N	Ind. Print Paper	M Useful Arts	
M6m44,N	Trans. Ind. Cera; Soc.	M143 PRINTING	Chem. Abst.
M7m44,N	Ind. Text. J.	Eam73,N	Chem. Abst.
MKm44,M	R. Imp. Vet. Res. Inst. Ind. Vet. J.	M6 CERAMICS	Chem. Abst.
MKm44,N2		M7 TEXTILES	Chem. Abst.
		Eam73,N	
		MK ANIMAL HUSBANDRY	
		K6am56,N	Helmin. Abst.
		Eam73,N	Chem. Abst.
		Gam73,N	Biol. Abst.
		K6am56,N	Helmin. Abst.

MK44,N3	Ind. J. Vet. Sc. Ani. Hus.	Eam56,N Eam73,N Gam73,N K6am56,N	Br. Abst. Chem. Abst. Biol. Abst. Helmin. Abst. Chem. Abst.
MK44,N36	Proc. Meeting Ani. Hus. Wing. Board Agri. Ani. Hus. Ind.	Eam73,N	
MK811,N44,N	B. Ind. Lac Res. Inst.	MK811 Lac Eam56,N Eam73,N	Br. Abst. Chem. Abst.
Sm44,N Sw44,N4	Ind. J. Psycho. Samiksa: J. Ind. Psycho. Soc.	S Psycholgy Sam73,N Sam73,N	Psycho. Abst. Psycho. Abst.
T: Sw44,N	J. Edu. Psycho.	T Education Sam73,N	Psycho. Abst.
U28m44,M	Mem. Ind. Meteo. Dept.	U Geography U28 METEOROLOGY Cam56,M Gam73,N	Phy. Abst. Biol. Abst. Phy. Abst. Biol. Abst.
U28m44,M,1	Sc. Notes Ind. Meteo. Dept.	Cam56,M Gam73,N	
Xm44,N	Ind. Trade J.	X Economics Eam73,N	Chem. Abst.

C. C. No.	Name of Ind. Per.	C. C. No.	Name of Abst. Per.
		X9 INDUSTRIES	
X9m44,N	B. Ind. Indus. Res. Bureau.	Eam73,N	Chem. Abst.
X9m44,N3	B. Dept. Indus. Bom.	Eam73,N	Chem. Abst.
X9m44,N4	B. Dept. Indus. Bengal.	Eam73,N	Chem. Abst.
		Z Law	
Zm44,N	All Ind. Rep.	Zam73,N	Index Legal Period.
Zm44,N4	Ind. Law. Rev.	Zam73,N	Index Legal Period.

Statement 3

In this statement, under the name of each of the abstracting periodicals, the name of the Indian periodicals abstracted in them are shown in their classified order.

2am73,N Library Literature

C.C.No.	Name of Ind. Per.	Name of Ind. Per.
2m44,N3	Abgila	Ind. Lib.

Bam73,N Mathematical Review

544,M	J. Mad. Univ.	Proc. Ind. Acad. Sc.
544,M5	J. Univ. Bom.	Trans. Natl. Inst. Sc. Ind.
544,N	J. Benaras H. Univ.	Proc. Natl. Inst. Sc. Ind.
544,N17	Patna Univ. J.	Sc. Cul.
544,N28	J. Anna. Univ.	J. Ind. Math. Soc.
544,N3	N. Ind. Antiq.	B. Cal. Math. Soc.
Am44,N18	Q. J. Ind. Inst. Sc.	Proc. Benaras Math. Soc.
Am44,N2	H. Y. J. Mys. Univ.	Sankhya: Ind. J. Stat.
Am44,N3	Proc. Natl. Acad. Sc.	Ind. J. Phy. (Proc. Ind. Assn. Cult. Sc.)
Am44,N32	Cur. Sc.	Ind. East. Eng.

Cam56,M Physics Abstracts

544,M5	J. Univ. Bom.	B. Cal. Math. Soc.
Am44,N18	Q. J. Ind. Inst. Sc.	Ind. J. Phy. (Proc. Ind. Assn. Cult. Sc.)

C.C.No.	Name of Ind. Per.	C.C.No.	Name of Ind. Per.
Am44,N32	Cur. Sc.	D66m44,N	Elec. Tech. (Ind. Inst. Se.)
Am44,N34	Proc. Ind. Acad. Sc.	U28m44,M	Mcm. Ind. Meteo. Dept.
Am44,N35,1	Proc. Natl. Inst. Sc. Ind.	U28m44,M,1	Sc. Notes Ind. Meteo. Dept.
Am44,N42	J. Sc. Indus. Res.		
Eam56,N British Abstracts			
544,M5	J. Univ. Bom.	E7m44,N	A. Biochem. Exp. Med.
544,N18	J. Osm. Univ.	E7m44,N36	Proc. Soc. Biolo. Chem. Ind.
544,N28	J. Anna. Univ.	Fm44,N2	J. Ind. Chem. Soc. Indus. News. Edn.
Am44,M	Proc. Sc. Assn. Maha. Vizianagaram.	Col. Hm44,N3	B. Hyd. Geolo. Sur.
Am44,N17	Trans. Bose Res. Inst.	Hm44,N30	Q. J. Geolo. Min. Meta. Soc. Ind.
Am44,N18	Q. J. Ind. Inst. Sc.	Jm44,NO,1	B. Agri. Res. Inst. Pusa.
Am44,N3	Proc. Natl. Acad. Sc.	Jm44,N06	Ind. J. Agri. Sc.
Am44,N34	Proc. Ind. Acad. Sc.	Jm44,N4	Ind. Far.
Am44,N351	J. Sc. Tech.	Lm44,M	Ind. Med. Gaz.
Am44,N352	Sc. Cul.	Lm44,N1	Ind. J. Med. Res.
Am44,N42	J. Sc. Indus. Res.	L185;4m44,N	Ind. J. Ophthalm.
Cm44,M	Ind. J. Phy. (Proc. Ind. Assn. L35;436m44,N Cult. Sc.)		J. Mal. Inst. Ind.
Em44,N2	J. Ind. Chem. Soc.	MKm44,N3	Ind. J. Vet. Sc. Agri. Hus.
Em44,N3	Rasayanam.	MK811m44,N	B. Ind. Lac. Res. Inst.
Em44,N4	J. Proc. Inst. Chem. Ind.		
Eam73,N Chemical Abstracts			
544,L,1	Yr. Bk. R. Asia. Soc. Bengal.	Am44,N32	Cur. Sc.
544,M5	J. Univ. Bom.	Am44,N34	Proc. Ind. Acad. Sc.

544, N1	J. Mys. Univ.	Am44, N35, 1	Proc. Natt. Inst. Sc. Ind.
544, N18	J. Ann. Univ.	Am44, N351	J. Sc. Tech.
544, N2	Nag. Univ. J.	Am44, N352	Sc. Cul.
Am44, L	J. R. Asia. Soc. Bengal Sc.	Am44, N42	J. Sc. Indus. Res.
Am44, N1	Proc. Ind. Sc. Cong.	Am44, N46	B. Patna Sc. Col. Phil. Soc.
Am44, N17	Trans. Bose Res. Inst.	Cm44, M	Ind. J. Phy. (Proc. Ind. Assn. Cult. Sc.)
Am44, N18	Q. J. Ind. Inst. Sc.	Dm44, M	Ind. East. Engi.
Am44, N2	H. Y. J. Mys. Univ.	Dm44, M1	J. Inst. Engi. Ind.
Am44, N3	Proc. Natl. Acad. Sc.	D16m44, N	Ind. Conc. J.
D66m44, N	Elec. Tech. (Ind. Inst. Sc.)	Jm44, N4	Ind. Far.
Em44, N2	J. Ind. Chem. Soc.	Jr4436	R. Opera. Dept. Agri. Punj.
Em44, N3	Rasayanam.	Jr4462	An. R. Bengal Dept. Agri.
Em44, N4	J. Proc. Inst. Chem. Ind.	J341m44, N	Ind. Sugar.
E7m44, N	A. Biochem. Exp. Med.	J451m44, N1	Ind. Tea Assn. Sc. Dept. An. R.
Fm44, N2	J. Ind. Chem. Soc. Indus. News. Edn.	J771m44, N2	Ind. Cen. Cot. Com. Tech. B.
Fm44, N3	Proc. Sug. Tech. Assn. Ind.	JAm44, M	Ind. For.
F9496m44, N	Ind. Soap J.	JAm44, N	For. Res. Inst. D. Dun Ind. For. Leaf.
Gm44, M	J. Bom. Nat. His. Soc.	JAm44, N3	Ind. For. Rec.
Gm44, N	Proc. Assn. Eco. Biolo. Coimbatore.	K86m44, N3	Ind. J. Ento.
Hm44, M5	Mem. Geolo. Sur. Ind.	Lm44, M	Ind. Med. Gaz.
Hm44, M5, 1	Rec. Geolo. Sur. Ind.	Lm44, M9	Ind. Med. Rec.
Hm44, N0	Mys. Geolo. Rec.	Lm44, N1	Ind. J. Med. Res.
Hm44, N4	B. Hyd. Geolo. Series.	Lm44, N06	Cal. Med. J.
Hm44, N2	J. Hyd. Geolo. Sur.	Lm44, N1, 1	Ind. Med. Res. Mem.
Im44, N19	J. Ind. Bot. Soc.	Lm44, N3	J. Ind. Med. Assn.

C.C.No.	Name of Ind. Per.	C.C.No.	Name of Ind. Per.
Im44,N191	J. Ind. Bol.	L: 5m44,N	Bengal Pub. Health J.
Jm44,N0	Sc. R. Agri. Res. Inst. Pusa.	L35: 436m44,N	J. Mal. Inst. Ind.
Jm44,N06	Ind. J. Agri. Sc.	M143m44,N	Ind. Print Paper
Jm44,N08	Poona Agri. Col. Mag.	M6m44,N	Trans. Ind. Cara. Soc.
Jm44,N1	Mad. Agri. J.	M7m44,M	Ind. Text. J.
MK44,N2	Ind. Vet. J.	X9m44,N	B. Ind. Indus. Res. Bureau
MK44,N3	Ins. J. Vet. Sc. and Hus.	X9m44,N3	B. Dept. Indus. Bom.
MK811m44,N	B. Ind. Lac. Res. Inst.	X9m44,N4	B. Dept. Indus. Bengal.
Xm44,N	Ind. Trade J.		
Gam73,N Biological Abstracts			
544,M5	J. Univ. Bom.	J451m44,N	Ind. Tea Assn. Sc. Dept. Memo.
544,M8	All. Univ. St.	J451m44,N,1	Ind. Tea Assn. Sc. Dept. An. R.
Am44,N1	Proc. Ind. Sc. Cong.	JA44,M	Ind. For.
Am44,N2	H.Y.J. Mys. Univ.	K44,N3	Ind. J. Ento.
Am44,N3	Proc. Natl. Acad. Sc.	Lm44,M	Ind. Med. Gaz.
Am44,N32	Cur. Sc.	Lm44,N	Antiseptic
Am44,N34	Proc. Ind. Acad. Sc.	Lm44,N06	Calmed. J.
Am44,N352	Sc. Cul.	Lm44,N1	Ind. J. Med. Res.
Em44,N2	J. Ind. Chem. Soc.	Lm44,N1,1	Ind. Med. Res. Mem.
E7m44,N	A Biochem. Exp. Med.	L: 42m44,N	Ind. J. Ven. Dis. Dermate.
Gm44,M	J. Bom. Nat. His. Soc.	L35: 436m44,N	J. Mal. Inst. Ind.
G: 6m44,	Ind. J. Gene. Pl. Br.	L91m44,N	Ind. J. Pedia.
Im44,N19	J. Ind. Bot. Soc.	MK44,N2	Ind. Vet. J.
Jm44,N06	Ind. J. Agri. Sc.	MK44,N3	Ind. J. Vet. Sc. Ani. Hus.
Jm44,N1	Mad. Agri. J.	V28m44,M	Mem. Ind. Meteo. Dept.
Jm44,N25	Alla. Far.	V28m44,M,1	Sc. Notes Ind. Meteo. Dept.
Jm44,N4	Ind. Far.		

**Jam56,N3 Bibliography of Soil Science Fertilizers
and General Agronomy**

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|--|---|--|--|
| 544,M5
Am44,N17
Am44,N18 | J. Univ. Bom.
Trans. Bose Res. Inst.
Q.J. Inst. Sc. | Am44,N352
Am44,N42
Cm44,M | Sc. Cul.
J. Sc. Indus. Res.
Ind. J. Phy. (Proc. Ind. Assn.
Cult. Sc.) |
| Am44,N3
Am44,N32 | Proc. Natl. Acad. Sc.
Cur. Sc. | D2m44,N36,N
Im44,N2 | Punj. Irr. Res. Inst.
J. Ind. Chem. Soc. Indus. News
Edn. |
| Am44,N34
Hm44,
Jm44,N06
Jm44,N25
Jm44,N4 | Proc. Ind. Acad. Sc.
Ind. Geolo.
Ind. J. Agri. Sc.
Alla. Far.
Ind. Far. | Jm44,
J37m44,N
J771m44,N4
JAm44,M | Ind. J. Horti.
Punj. Fr. J.
Ind. Cot. Gro. Rev.
Ind. For. |

J:G:6am56,N Plant-breeding Abstracts

- | | | | |
|---|--|--|---|
| Am44,N3
Am44,N32
Am44,N34
Am44,N35,1
Am44,N352
Bm44,N0
G: 6m44, | Proc. Natl. Acad. Sc.
Cur. Sc.
Proc. Ind. Acad. Sc.
Proc. Natl. Inst. Sc. Ind.
Sc. Cul.
B. Cal. Math. Soc.
Ind. J. Gene. Pl. Br. | Jm44,N1
Jm44,N4
Jm44,
Jr4431
J741m44,N
J741m44,N1
J771m44,N2
B. | Mad. Agri. J.
Ind. For.
Mys. Agri. Res. J.
Leaflet Dept. Agri. Bom.
B. Ind. Cen. Jute. Com.
Agri. Res. B. Ind. Cen. Jute. Com.
Ind. Cen. Cot. Com. Tech. Lab. Tech.
B. |
| Im44,N19
Jm44,N
Jm44,N06 | J. Ind. Bot. Soc.
Misc. B. Imp. Coun. Agri. Res. Ind.
Ind. J. Agri. Sc. | J771m44,N4
JAm44,M
JAm44,N | Ind. Cot. Gro. Rev.
Ind. For.
For. Res. Inst. D. Dun Ind. For. leaf. |

K6am73,N Helminthological Abstracts

C. C. No.

Name of Ind. Per.

Km44,N

Rec. Ind. Mus.

K6m44,N4

Ind. J. Helmin.

Lm44,M

Ind. Med. Gaz.

Lm44,N1

Ind. J. Med. Res.

C. C. No.

Name of Ind. Per.

MKm44,M

R. Imp. Vet. Res. Inst. Mukteswar.

MKm44,N2

Ind. Vet. J.

MKm44,N3

Ind. J. Vet. Sc. Ani. Hus.

Sam73,N Psychobiological Abstracts

Sm44,N

Ind. J. Psycho.

Sm44,

Samiksa: J. Ind. Psycho. Soc.

T: Sm44,N

J. Edn. Psycho.

15 Zm44,N

Zam73,N Index to Legal Periodicals

All Ind. Rep.

Zm44,N4

Ind. Law Rev.

23 ALPHABETISATION

PAPER 231

ALPHABETISATION IN DOCUMENTATION

S. R. RANGANATHAN AND G. L. GULATI

[Fewness of conventions and arrangement by what is visible are the basic desiderata. All-through alphabetisation, fixing of ordinal values for symbols other than alphabet and the problem of entries in several alphabets are discussed.]

0 Preliminaries

Convenience in the use of a Documentation List depends essentially on the arrangement of entries. Alphabetisation is one of the forms of arrangement usually met with. Even when a Documentation List has a part admitting of numerical arrangement, it should provide an alphabetical part and it is this part with which a user has to begin the use of the Documentation List. Alphabetisation is thus of the very essence of documentation work.

01 FIRST ASSUMPTION

Though those who do documentation work will be small in number and can be trained to observe complicated conventions, the users, who are many, may not have occasion to apply the conventions with sufficient frequency to make them follow them automatically and consistently. Moreover economic reasons make it necessary to entrust the arrangement of entries to persons of inferior calibre who too cannot conform to complicated conventions automatically and consistently. We therefore make the assumption that alphabetisation should involve *as few conventions as possible*.

02 SECOND ASSUMPTION

Secondly we assume as a compulsory principle—never to be violated—that alphabetisation should be determined only by the ordinal values of the successive primary symbols occurring in an entry and should never call for taking into consideration the meaning of any word or group of words in the entry. This essential assumption is equivalent to postulating that alphabetisation should be a mechanical process, which needs no knowledge of the thought-content of the entries and indeed needs no more knowledge than that of the sequence of the primary symbols visible in the entries. In a word, there should be *mechanisation* of alphabetical arrangement.

03 TERMINOLOGY

The following terms will be of use:—

1. The first word or any other meaningful symbol occurring as the first element of an entry may be called the *entry-word*. The entry-word has got the greatest *potency* in fixing the position of the entry;
2. If the heading is in more than one word—hereafter 'word' will also be taken to denote other meaningful symbols—its later words will have a decreasing order of potency;
3. If the heading consists of more than one word or group of words separated by punctuation marks, the first word or group of words as the case may be will be called the *main heading*. The later ones will be called *sub-headings*; and
4. What follows the heading will be called the *title*.
5. What follows the title may be either series note, collation and imprint if the entry relates to a book, or the occurrence note, i.e., a note showing where the item documented occurs, if the entry relates to an article in a periodical or a part of a book.

04 PROBLEMS FOR CONSIDERATION

The problems arising in alphabetisation may be considered in three groups according as

1. All entries are in one language;
2. All entries are in the characters of one alphabet with certain symbols foreign to it and yet not belonging to another alphabet; and
3. The originals of the entries are in the characters of different alphabets.

1 Single Language

11 TREATMENT OF HOMONYMS

One disturbing factor in alphabetisation is traceable to an inherent urge to throw entries in a classified order. This urge manifests itself in grouping homonymous entry-words or headings according to their meaning. This is what the draft British Standard CJ(OC)6268 prescribes as "recommended order" and illustrates by the examples cited at the end of its clause 16. This recommendation violates the essential quality of *mechanisation* mentioned in section 02.

12 FORMATION OF CLASSIFIED POCKETS

A more disturbing factor which occurs even more frequently is the urge to form classified pockets. For this purpose the words in a heading are inverted or specific headings which may be normally looked up by users are grouped under a heading of greater extension. In fact many other devices are adopted. It is difficult for the documentalist to be consistent in this game. It is also difficult for the user to know what tricks of this kind the documentalist had actually implemented in each case. It is therefore desirable to avoid the formation of classified pockets.

The fact is that there are two diametrically opposite facilities which the users of alphabetically arranged entries seek:

- (1) simplicity in the formation of entries and alphabetisation; and
- (2) classified pockets in the alphabetical arrangement.

So long as there is no classified part, alphabetical arrangement will have to yield to the persistence of human mind to see intrinsically related ideas entered together, and systematical arrangement will have to be given the sop of classified pockets.

121 Remedy

If the arrangement of entries is not to expose itself to the peril of rowing in two boats, there must be two different sequences in which entries are displayed—a classified sequence and an alphabetical sequence. If this separation of function is effected, the classified sequence can rise to its full height and face up without hesitation or inefficiency the individualization of every factor involved, and alphabetisation too can attain the farthest reach of simplicity—in fact, it can be ruthless, fool-proof all-through alphabetisation, with the full assurance and confidence that it need not strain and maul itself to produce the partial effect of a systematic sequence by developing cysts or pockets of classified stuff all through its body.

122 Etiology of Resistance

The need for this reform in arrangement is being increasingly felt in catalogues and bibliographies. The change-over from unipartite to bipartite design is, however, resisted by some with bigotry born out of long usage. One means of melting this bigotry is to show why there were only unipartite designs in the past. That was because the classified part needed for bipartite design was not within practicability. It was not within practicability, since an individualising scheme of classification or artificial language of ordinal numbers had not been designed. It is less than a hundred years since its designing is being

attempted and it is only in recent years that a science of classification has begun to emerge. If proper weight is given to the efforts of the library profession—particularly by its documentation wing—to make classification efficient, effective and individualizing, alphabetisation in documentation lists be released to become pure and simple.

123 Chain Procedure

Moreover the technique of chain-procedure developed in India secures phenomenal consistency and certitude in the formation of subject headings in documentation lists, by making their choice depend upon the classification scheme in use and their rendering depend on the standard terms adopted by that scheme.

13 GESTALT ALPHABETISATION

If we wish to respect the urge for grouping entries with homonymous headings and for forming classified pockets, without violating the essential principle of *mechanisation* mentioned in section 02, we should make proper rules for the style of writing the headings, using various type-faces like block letters, italicised block letters, lower case letters, italicised lower case letters, antique face letters, letters with diacritical marks etc. and prescribe definite ordinal values for all kinds of type-faces, punctuation marks, brackets etc. so that the resulting arrangement may produce the result conceived at the idea-level. The rules for the style of writing entries and for alphabetising them should be conceived and laid down as an organic whole. That this is possible has been demonstrated by what has been called the Gestalt method of alphabetisation in the *Theory of library catalogue* (1938) of S. R. Ranganathan. But however successful it is when viewed from the angle of *mechanisation*, the plethora of conventions, the variant forms of the characters of the alphabet and their varying ordinal values, make the user lose consistency of judgement and behave like one hanging by too many ropes. Indeed the first condition prescribed in section 01,—that the *conventions should be as few as possible*—is shown scant courtesy. Gestalt alphabetisation must give place to all-through alphabetisation, as determined by the symbols that are visible, without attaching any significance to difference in type-face and without any dependence whatever on the meanings of the terms forming the headings.

14 CONVENTIONAL ABBREVIATIONS

Another factor which disturbs guidance of alphabetisation by the symbols actually visible is the varying conventions centering round abbreviations. *Mc.* and *St.* are the most recurring examples in the English language. Apart from these conventional abbreviations, abbreviations of all other sorts can occur. In this case

not only is *mechanisation* thwarted, but there is also utter lack of consistency in different documentation lists. It is desirable that this trouble also should be eliminated by prescribing arrangement by the symbols actually visible.

But there is a difficulty here. In the case of names which had been in use for centuries and which come within the personal prerogative of those who carry them, we find contractions not used by some and different contractions used by some for one and the same word or group of letters. It is difficult for the user to remember the exact way in which it has been spelt by different persons. The only way in which this difficulty can be met appears to be to have recourse to cross-references. For example at the beginning and at the end of the block of entries beginning with *Mc.* the following cross references may be inserted.

1. *At the beginning—*

"For other words beginning like the following see also words beginning with *Mac*"

2. *At the end—*

"For other words beginning like the above see also words beginning with *Mac*".

Similar cross references are also to be put before and after the block of words beginning with *Mac*.

15 VARIANT SPELLINGS

When the same word occurs spelt in different ways, the position of each variant should be determined by the actual spelling given in the entry. As suggested in the case of *Mac* and *Mc*, a cross reference should be given from each variant to every other one.

16 SPACES BETWEEN WORDS, PUNCTUATIONS MARKS, ETC.

Different modes of grouping letters occur in entries calling for alphabetisation. These different modes of grouping have been designed to form and distinguish the following patterns in entries:

1. A word;
2. A group of words;
3. A group of clauses;
4. A group of sentences; and
5. A group of paragraphs or sections.

In the above enumeration the terms 'clauses', 'sentences', 'paragraphs' are used only in their formal sense as determined by the interposition of punctuation marks and paragraph indention. They are not to be taken in relation to the extent of the incompleteness or completeness of unity of thought-content.

Discussion will become easy if we agree to call the space between:

1. Consecutive words, a word-space;
2. Components of a compound word occupied by a hyphen, a hyphen-space;
3. Consecutive words occupied by a dash or parenthetical mark, a parenthetical-space;
4. Consecutive words occupied by a comma, a comma-space;
5. Consecutive words occupied by a semicolon, a semicolon-space;
6. Consecutive words occupied by a colon, a colon-space.
7. Consecutive words occupied by a fullstop, a sentence-space; and
8. Consecutive paragraphs or sections, a paragraph-space.

The only complication caused by different kinds of space intervening between words, which has been met till now, is the one relating to word-space. Two alternative conventions are in vogue in regard to it:

1. *Either*, All-through alphabetisation, ignoring the existence of word-space, as in the following example: *e.g.*

Newark

New York

2. *Or*, "Nothing before something" rule: *e.g.*

New

New York

New Zealand

Newark

Newman

In actual practice either convention works equally well. There appears to be nothing to choose between these two alternative conventions on grounds of psychology or any other convenience.

It is desirable that similar conventions should be established to cover the other kinds of spaces between words. The *Classified catalogue code* of S. R. Ranganathan has sought to implement it by fixing a scale of ordinal values for the different kinds of spaces between words.

Here again the purpose of the elaboration of the rules about spaces in the *Classified catalogue code* had been to demonstrate the possibility of reducing the task of producing a certain result in alphabetisation to rules about style of writing and demonstrating that the conventions required for this purpose prove to be

too inconvenient if not baffling to users. Here again it will be desirable if the punctuation marks and the spaces could be ignored in the alphabetisation.

17 ALL-THROUGH ALPHABETISATION

In the case of entries in one language without any symbols other than the characteristics of the alphabet, can it be asserted that it will be helpful for users if alphabetisation can be ruthlessly all-through, ignoring variations in type-face, abbreviations, spaces and punctuation-marks of every variety?

2 Symbols Foreign to the Alphabet

Documentation entries are likely to contain a few symbols foreign to the alphabet adopted, for example numerals, mathematical symbols, symbols for measures and weights, monetary symbols and other conventional symbols including brackets. There are two ways of fixing their ordinal values. Either they may be arranged on the "as if" principle—i.e. as if they had been written out in words. This violates the assumption made in section 02 that arrangement should be only by what is visible. If we arrange by what is visible, the order is often as shocking as in the arrangement:—

Eighth Report

Fourth Report

Second Report

Third Report

The only way of avoiding this dilemma appears to be to go behind the task of alphabetisation and ask the producers of documentation-lists to write them always in the form of conventional symbols and to fix an agreed system of ordinal values to all the conventional symbols among themselves and in relation to the letters of the alphabet adopted.

21 ORDINAL VALUES OF SYMBOLS FOREIGN TO ALPHABET

The following scheme of ordinal values is suggested for consideration:—

1. Numerals are to precede the characters of the alphabet;
2. The mathematical symbols, given hereunder, should be arranged in the order in which they are written
 $\equiv = || + - \times \div$
3. A convention should be established for the other mathematical symbols;
4. Conventional symbols for spacial measures are to precede those for weights, the latter are to precede those for other

physical entities; these are to arrange themselves in the following order of their entities: Heat, Radiation, Electricity, Magnetism and Time;

5. Conventional symbols for money should be arranged in the order in which a standard scheme of classification, say Colon Classification, arranges the geographical areas in which they originated; and
6. The categories 2 to 5 may respectively succeed the alphabet.

3 Originals in Different Alphabets

In an international documentation list entries will have to be made for materials whose originals are in the characters of different alphabets. Two ways of writing them are possible.

1. To transliterate all entries in the characters of one alphabet; or
2. To write each entry in the character in which its original appears.

31 SINGLE ALPHABET AND TRANSLITERATION

If we have recourse to transliteration, international agreement is necessary with regard to:—

1. the alphabet whose characters should be used—that is to name an alphabet as the Favoured Alphabet; and
2. a table of transliteration for the various other alphabets.

311 Favoured Alphabet

It will be difficult to choose any of the existing traditional alphabets as the Favoured Alphabet, without inducing national resistance. The subtle manner—unintentional though it might be—in which the Roman alphabet is being established among the undeveloped people of to-day will ultimately fail. Its failure will result from

- (1) the phonemical poverty of the Roman alphabet;
- (2) the irrational—nearly chaotic—order of the characters of that alphabet; and
- (3) the recovery of the undeveloped countries from exhaustion and the waning of the influence of the hitherto developed countries.

All the known traditional alphabets are not of equal phonemical richness. Nor can it be said that even the richest alphabet has characters to represent all the sounds of the characters even of the poorest alphabet. Thus if even the phonemically richest alphabet is chosen as the Favoured Alphabet for transliteration purposes, its characters will have to be amplified by extra characters.

312 Diacritical Marks

One conventional way in which new characters are introduced into the Favoured Alphabet is that of having diacritical marks. This method was devised about a century or two ago when languages of the oriental people, who had gone into a state of cultural exhaustion, came to be studied by the people of Europe who were then entering into their phase of cultural aggressiveness. International oriental congresses had in the past paid much attention to this work of transliteration and of arriving at an agreed table of transliteration. However there seems to be some sign of some people being tired of this process. For there are signs in certain countries of a tendency to drop diacritical distinctions between sounds which do not get distinctive characters in the Roman alphabet. The result is eventually bound to be alphabetical chaos.

313 Printer's Plea

The mechanical reproduction of entries either by typewriting or by printing from movable metallic types will be made more comfortable and cheaper if the effect of diacritical marks can be produced by the addition of an extra character which can succeed the basic character to produce its variant. This has not yet been achieved.

314 An Artificial Phonetic Alphabet

Perhaps a far simpler solution might be to design *de novo* a new alphabet with distinct characters (or groups of characters, in case they prove too many, say, for typewriting) for each of the different sounds needed in all the languages of the world taken together. The difficulties here are:—

1. the task of designing it; and
2. the printing trade introducing the necessary fonts and the makers of typewriting machine also doing similarly.

Perhaps this will be the only rational, though drastic, solution. Phonologists should apply themselves to it. The difficulty of a new alphabet having to be learnt by people need not be given much weight. For as shown in section 714 of paper 213, World Subject Bibliographies will be confined to materials of seminal and research nature and these will be used only by highly organised persons of great intellectual calibre. They will find it more economical to learn a rationally designed universal alphabet than to face irritating, diacritically marked, characters. The design of new characters for the alphabet by specialists in phonetics during the last half century is well-known.

32 MULTIPLICITY OF ALPHABETS

The only way of avoiding the designing of a new universal alphabet as well as the loading of the Favoured Alphabet with diacritical marks, will be to allow the World Subject Bibliography to be printed in diverse alphabets exactly as those in which the originals occur. If this method is followed some convention should be adopted to arrange the entries in a consistent way. There are two courses open:—

1. The entries may be grouped according to their alphabet;
2. The entries in different alphabets may be arranged into one sequence according to the phonetic values of the characters representing them.

321 Multiplicity of Sequence

If the entries are grouped according to their alphabet, there will naturally be as many alphabetical sequences as there are alphabets. The entries in each group may be arranged strictly according to the conventional ordinal values of its characters. This will not require any new convention. However a convention will have to be established in regard to the order in which the groups should be arranged among themselves. In other words an international agreement will be necessary to fix ordinal values for the different alphabets, taken as wholes. Perhaps these may be arranged in the order in which their countries of origin are arranged in a standard scheme of classification, say, the Colon Classification.

322 Single Sequence

The difficulties of throwing the entries in all the alphabets into one sequence are very great. In the first place international agreement is necessary to establish phonetic equivalence among the characters of the different alphabets. Secondly there should be an international agreement also in regard to the ordinal values of different characters of equivalent phonetic value. Perhaps this can be as suggested in the last sentence of section 321. Thirdly the task of printing or typing will be nearly insuperable. Even apart from this, the number of conventions needed in alphabetisation will be far more than will be allowed by the assumption in section 01.

STATE AND NATIONAL BIBLIOGRAPHIES
AN ESTIMATE

K. D. PURANIK AND S. P. PHADNIS

[Makes an estimate for the man-power and finance needed for the publication of State and National Bibliographies.]

0 Introduction

Samples of the *Quarterly list of publications* published in accordance with the Press and Registration of Books Act (Act 25 of 1867) in some constituent States of India were examined as a basis for estimating the size etc. which the *Indian national bibliography* may have.

01 Existing State Bibliographies

Statement 1 gives the names of the constituent States with the approximate number of entries of books and whole volumes of periodicals made in the quarterly lists in one year. The number of pages covered at present by the respective lists is also given. In some cases the lists were available only for a part of the year and these were used as a basis for working out the estimate for the whole year.

02 Estimates for State Bibliographies

Statement 2 gives the estimate for the future *State bibliographies* of the constituent States of India. This estimate is based on the following assumptions:

1. Format: 6.7" \times 10".
2. Type: 10 point for text and 8 point for annotation.
3. The Entries proposed for each book:

In each issue.

1. Call Number Entry (Main Entry); and
2. Book Index Entries (Added Entries).

In the annual volume.

1. Call Number Entry (Main Entry);
2. Book Index Entries (Added Entries); and
3. Class Index Entries (Added Entries)
4. The Entries proposed for periodicals;

In each issue.

None.

In the annual volume.

As in the case of books, for completed volumes only.

5. Number of publications in a year:

As given in column 1 of Statement 2.

6. Average Number of Entries per book:—

$4 = 1 \text{ Main entry} + 3 \text{ Added Entries.}$

7. The three Added Entries will together require as much space as the Main Entry.

8. Number of Main Entries per page = 16.

03 Periodicity for State Bibliographies

Statement 3 suggests what periodicity would be convenient for the bibliographies of the different constituent States.

04 Estimate for National Bibliography

Statement 4 gives the estimate for the National Bibliography for the whole country. This estimate is based on the same assumptions as for Statement 2.

STATEMENT I

Existing State Bibliographies

Name of the State.	Sample year.	Approximate Number for one year Books. Whole volumes of periodicals.	Number of pages occupied Size $8\frac{1}{2}" \times 13\frac{1}{2}"$ Actual. If added entries also are given.	Equivalent No. of pages for Size $6.7" \times 10"$.
Madras	1947	2,180	116	300
Mysore	1947	50	30 (Typewritten)	10
Bombay	1947	1,970	146	268
Uttar Pradesh	1947	1,020	45	130
Bihar	1947	25	7	8
Bengal	1947	2,300	160	290
C.P. & Berar	1945	160	Size different.	20

STATEMENT 2
Estimate for Proposed State Bibliographies

Name of the State.	Estimated number of publications in one year.	Number of entries for the annual volume.	Estimated number of pages for the annual volume.	Estimated No. of pages for monthly issue.
Assam	200	800	25	2
Bihar	100	400	12	2
Bombay	2,500	10,000	312	26
C.P. & Berar	300	1,200	38	4
East Punjab	500	2,000	62	6
Madras	2,500	10,000	312	26
Orissa	100	400	12	2
Uttar Pradesh	1,500	6,000	186	16
West Bengal	2,500	10,000	312	26
Delhi and other Chief Commissioner's Provinces	1,000	4,000	124	12
United States of Madhyabharat.	200	800	25	2
Patiala and East Punjab States Union	200	800	25	2
Union of Rajasthan	50	200	6	2
Union of Travancore and Cochin	500	2,000	62	6
United States of Vindhya Pradesh	50	200	6	2
Jammu and Kashmir	100	400	12	2
Hyderabad State	500	2,000	62	6
Mysore State	200	800	25	2
Union of Sourashtra	100	400	12	2

STATEMENT 3
Convenient Periodicity for the Proposed State
Bibliographies

Monthly.	Quarterly.	Half-yearly.	Annual.	Triennial.
Bombay	Uttar Pradesh	East Punjab	Assam	Bihar
Madras	Delhi and other Chief Commissioner's provinces.	Hyderabad State	C.P. and Berar	Orissa
West Bengal		Union of Travancore and Cochin	United States of Madhya Bharat	Union of Rajasthan
			Patiala and East Punjab States Union	United States of Vindhya Pradesh
			Mysore	Jammu and Kashmir.

STATEMENT 4

National Bibliography

Estimated number of publications in one year ..	13,000
Estimated number of entries for the annual volume	52,000
Estimated number of pages for the annual volume (Size 6.7" X 10" and Type 10 point and 8 point)	1,625
Estimated number of pages for the monthly issue ..	140
Estimated number of pages for the weekly issue ..	40

5 Man-power

To prepare and publish a National Bibliography of 13,000 titles per annum, the following staff will be necessary:—

Professional 14; Ministerial 5 and Unskilled 6; Total 25.

One of the professional staff, who will be the Head, will have to be placed in class C, seven in class D and six in class E among the classes of library service proposed in Dr. Ranganathan's *Library development plan* (1950).

6 Financial Estimate**61 ANNUAL BUDGET**

The annual budget for an edition of 1,000 copies will have to be about Rs. 1,25,000. This sum may be found either by the National Central Library or it can be shared between the National Central Library and the State Central Libraries of the several Constituent States.

As the total number of pages will be 1,625, spread over perhaps four volumes, and as each monthly issue will extend to about 140 pages, the present cost of printing will indicate a monthly subscription of Rs. 10/-. In this way an edition of 1,000 copies may be nearly self-supporting.

A way in which the annual subscription can be reduced will be for the Book Trade to contribute liberally towards the cost of publication and the annual subscription being made to cover only the deficit. In countries like France and Denmark, the Book Trade has found it wise and profitable to support and make financial contributions to the National Bibliography prepared under such expert national auspices instead of running it under the auspices of the Publishers' Association.

The figure Rs. 1,25,000 is arrived at as follows.

62 STAFF SALARY

About a lakh of rupees will be needed to maintain the staff mentioned in section 5, the scale of salary, leave reserve and provident fund contribution being those laid down in the *Library development plan*.

63 PUBLICATION COST

An edition of 1,000 copies will need 200 reams of double demy paper costing about Rs. 10,000. The cost of printing and casing will be about Rs. 15,000. This will bring the production cost to Rs. 25,000/-.

It is suggested that in the earlier years the weekly issues and the monthly cumulations may be produced by each State Central Library for the publications in its area. The National Central Library should have charge of only the *Annual national bibliography*.

Some economy can be effected by organising the physical process of printing on a co-ordinated basis. It is beyond the scope of this paper to go into it.

INDIAN SUBJECT BIBLIOGRAPHY—A SCHEME

S. R. RANGANATHAN

[Estimates the quantum of work, number of entries per year, number of volumes per year, man-power, and finance required for the *Indian subject bibliography*. Also exposes a fallacy in the exaggerated importance given to linguistic competence even at the cost of library-qualification in the staff for Bibliographical Centre.]

0 Introduction

As pointed out in Section 43 of paper 211, a Subject Bibliography is most economically maintained as an international enterprise. However many unco-ordinated national attempts are now in vogue. If there is an agreed world-plan, India will have only to produce World Subject Bibliography on the regions of knowledge falling to its share. Till such World Organisation is established, it is but proper that India should again experience in building current subject bibliographies of its own.

01 UNABSTRACTED INDIAN PERIODICALS

Moreover, only a fraction of the Indian Periodicals—only 120 out of 594—figures in the current subject bibliographies of the world. This fact indicates a particular fallow region to which the National Bibliographical Centre of India should pay attention. Even with regard to the 120 Indian periodicals abstracted in foreign media, it must be possible for the *Indian subject bibliography* to reduce the time-lag between the appearance of a periodical article and its abstract.

02 EFFECTIVE USE OF FOREIGN PERIODICALS

As shown in paper 222, the Indian libraries are taking 3,077 foreign periodicals and 87 abstracting periodicals. There is at present no co-ordination in the way in which these periodicals are taken by different libraries. It is difficult to determine how many of the foreign periodicals taken in India are not covered by the bibliographical periodicals taken. Moreover the bibliographical periodicals are taken only by a few libraries. Thus the foreign periodical literature for which the Indian nation pays several lakhs of rupees every year go inadequately used. One of the purposes of the National Bibliographical Centre should

be to stimulate full and active use of the periodicals taken in the different libraries, by all workers wherever they may be stationed. It is obviously uneconomical for hundreds of exhaustive subject bibliographies being taken by several libraries. They can be taken only by a few select ones which are particularly well-financed. In the interim period, before there is a rationalisation of bibliographical service in the world, the *Indian subject bibliography* should confine itself to the periodicals available in India and even there to the subjects in which active work is known to be in progress.

03 AN ECONOMICAL METHOD

Even assuming that we can find out the subjects in which active work is in progress and do only selective documentation for the 3,679 periodicals taken in Indian libraries, it will have to be considered whether it is necessary to provide abstracts for all the articles and whether it may not be sufficient to publish only a bare list of the articles and furnish abstracts only on demand. This practice is very much in vogue in the industrial libraries I visited in the United States. This is practised to eliminate waste of work and as an economy measure. It is said to cause little hardship to the workers, provided an annotation is added in the case of an article whose class-number and title read together fail to indicate its scope.

To get a realistic grasp of the financial implications of the enterprise and the economy-reasons for (1) selective documentation, and (2) publication of bare lists along with offer to provide abstracts on demand, it is desirable to examine the quantum of work involved, the man-power required, and the finance necessary for

- (1) Exhaustive listing of articles; and
- (2) Providing abstracts for all the articles.

1 Exhaustive Listing

11 QUANTUM OF WORK

It is estimated that the average number of articles which appear in a year in the periodicals under consideration will be 1,50,000. Assuming that each article will require one main entry and an average of three added entries, the total number of entries in the annual volume of the *Indian subject bibliography* will be 600,000. Assuming that forty entries can go into a page, these entries will require 15,000 pages. These may conveniently be bound in 24 volumes. If the bibliography is brought out as a monthly, each month two volumes will have to be published. If it is brought out as a weekly, each week a volume of about 312 pages will have to be brought out.

12 MAN-POWER

Assuming that one professional man can classify and catalogue fifteen articles per day (it has to be remembered that this will involve detailed depth-classification and the writing of 60 cards) and that he can work for 275 days in the year, he can do in round figures 4,000 articles in a year. Further, the forme-proofs of the *Bibliography* will have to be read and passed. Thus again in round figures the professional staff required to make an exhaustive classified catalogue of all the articles in all the 3,679 periodicals taken in India will be 40. These will have to be helped by a ministerial staff of ten and an unskilled staff of ten in seeing the matter through the press, distributing the published volumes and doing other incidental secretarial work.

13 FINANCE

131 Staff

The units of service mentioned in my *Library development plan* (1950) are assumed. The annual salary for grades B, C, D, and E of professional members of the staff are accordingly taken as Rs. 18,000/-, 9,000/-, 6,000/- and 3,000/- respectively. Similarly the annual salary of a ministerial and unskilled member of the staff is taken to be respectively Rs. 1,800/-, and Rs. 900/-. Further it is desirable that the professional staff of 40 should be distributed among the grades as follows:—

B grade	..	1
C	..	2
D	..	19
E	..	18

On the basis of this distribution of staff, scale of salary, leave reserve, and provident fund contribution, the annual budget for the staff should be Rs. 3,80,000.

132 Publication

We shall assume that an edition of 1,000 copies should be produced. This will require 2,000 reams of paper. The cost of paper may be a lakh of rupees and the cost of printing and binding may come to another lakh of rupees. It is known that for a small edition like the one contemplated here, printing from movable metallic type is more costly. By adopting an offset or some other near-printing process the total cost of production may be reduced by 25%.

133 Annual Cost

The annual cost of the *Indian subject bibliography* in the form of a bare but exhaustive list of all the articles in all the 3,679 periodicals currently taken in India will come to Rs. 5,00,000/- in round figures.

14 SELECTIVE LIST

This is a considerable sum for the present financial condition of India. Probably the rate at which advanced work is going on in the country may not require an exhaustive list of all the articles in all the periodicals. Perhaps about a fifth of them may be sufficient. Then the annual cost will come to a lakh of rupees. Of course the editorial staff will be hard put to it to select the fifth which will be actively consumed by the workers in the country. To do this selection work effectively, considerable liaison work with research workers will have to be done. In fact one of the professional men, preferably the chief, should be the liaison officer for this purpose.

2 Abstracting

Assuming that an abstractor can do fifteen articles per day, his annual capacity will be roughly 4,000 articles. To abstract all the articles, there may be need for 40 abstractors. Perhaps the abstracting staff also will cost nearly three lakhs a year. This is certainly prohibitive.

21 FIRST METHOD OF ECONOMY

One method of economy will be to abstract only select articles, say about a fifth. This may bring the cost of the staff to Rs. 60,000 per annum.

22 SECOND METHOD OF ECONOMY

A second method of economy which is practised widely by the abstracting periodicals will be to tap honorary service from the scientific workers of the country. In that case there will be need only for one abstractor to co-ordinate the abstracts received from the honorary abstractors.

23 A THIRD METHOD OF ECONOMY

A third method of economy will be not to provide abstracts in the *Indian subject bibliography*. When copies of the bibliography reach the clientele, it is open to anybody to ask for the original or the abstract of the particular articles in which he may be interested. It is now difficult to estimate how many will be satisfied to borrow the original and how many would like to have abstracts.

3 Periodicity of Issue

The next point to be considered is: What should be the periodicity of the issue of the fascicule of the *Indian subject bibliography*? Surely one year is too long period. One week will be the ideal. But perhaps it will take several years before we can realise this ideal. Perhaps it would be practicable and

sufficient to bring out the *Indian subject bibliography* on a monthly basis. As already stated two volumes, together extending to 1,500 pages, will have to be brought out each month if the bibliography is to be exhaustive, and a volume of 250 pages only if the bibliography can be selective.

4 Language Qualification

Another question which is frequently raised in the organization of National Bibliographical Service concerns the language distribution of the staff. This question is often settled *ex cathedra* according to the prevalent political and other fleeting and vague impressions. One reliable method will be to base the decision on the linguistic distribution of the periodicals currently taken in India. This distribution is given in table 3 of paper 222. Here are the languages arranged in the descending order of the percentage of currently taken periodicals using them as their media:—

English.	78%
French.	6%
German.	6%
Russian and other Slavic languages.	1.8%
Dutch.	1.5%
Italian.	1.5%
Scandinavian languages.	1.5%
Spanish.	1.1%
Portuguese.	1.1%
Other languages.	1.5%

41 THE ACTUAL NEED

This factual proportion shows that in a professional staff of 40 it would be enough if two members know French, two know German and one knows Slavonic languages. It is uneconomical and unnecessary to seek to have full time-staff that know other languages.

42 A FAULTY TRADITION

This analysis throws some light also on the employment of language specialist for translation service. When a well-classified and well-featured Subject Bibliography is published, the class number and the context in the arrangement will by itself indicate, to a specialist-reader, the gist of the article in a foreign language. He can understand the gist to the extent to which it will enable him to decide whether he wants to have a

translation of the whole article or an abstract of it into English. Thus it is doubtful whether in the present conditions there will be work even for one full-timed translator in French or German, let alone Russian. Completely oblivious of this fact, it has been a faulty tradition among the authorities of Departments of Research and other scientific libraries to put linguistic competence as an essential qualification even to the exclusion of competence in classification and cataloguing. Some big libraries had been recruiting their library staff on this basis for nearly a generation. The result has been that the library had been neglected, library service is still crawling in its primeval state and the enormous periodical material purchased at heavy cost is all buried among the dusty shelves almost immediately after they arrive. In one library I have seen heaps of unopened periodicals thrust behind the shelves. Such is the wastage and illusion involved in the present library provision for research, which insists upon linguistic competence as the *sine qua non* for qualification to run a library. We trust that a sense of reality will dawn upon all concerned and that the Indian Subject Bibliography will be developed along lines which will enable it not only to fulfill itself, but also enable the learned periodicals taken in India to fulfill themselves, the libraries in the country fulfill themselves, and above all the persons engaged in research fulfill themselves, thereby adding to the progress and prosperity of the country.

DOCUMENTATION IN AN AGRICULTURAL LIBRARY

N. N. CHATTERJI

[Describes the documentation work attempted in the Indian Agricultural Research Institute and outlines the documentation needs of India in respect of Agriculture.]

1 Data about Indian Agricultural Research Institute

The Library of the Indian Agricultural Research Institute was originally established in Pusa, Behar, in 1905. It was shifted to New Delhi in 1936. The Library now contains over 100,000 volumes comprising approximately of 14,000 books, 41,000 volumes of periodicals and 45,000 pamphlets. These collections are represented on about 1,75,000 cards. The annual accession now exceeds 4,000; the number of periodicals currently received is nearly 1,000. The number of index cards typed each year exceeds 20,000.

11 SYSTEMATIC CATALOGUE

No documentation was done till 1936. Previous to this, some alphabetical subject-indexing had been in force. The defects of such a system are too well known to need any mention. When a trained librarian took charge of the library in 1936, classification was begun. The system adopted was Universal Decimal Classification. Systematic cataloguing of all the new accessions has since been in progress. Author cards, joint author cards etc. are made and subject cards are assigned Universal Decimal numbers. Cross-references are made wherever needed.

2 Documentation of Indian Periodicals

21 INADEQUACY

With the growth of agricultural literature, however, this soon failed to satisfy the needs of users. The various foreign abstracting periodicals taken in the library are subject to considerable time-lag. Further all the periodicals published in India are not abstracted in them. For instance the *Bibliography of soil science, fertilizers and general agronomy* abstracted in 1944-7 only 7 of the nearly 70 Indian periodicals currently published.

22 RESTRICTED ATTEMPT

As a step towards improved service, documentation of articles bearing on Indian agriculture, in whatever periodicals they appeared, Indian as well as foreign, is being attempted since 1946. Nothing more than this can possibly be done by a limited and over-worked staff. Even this means extra work and extra time for two members of the staff.

23 EXAMPLE OF WORK DONE

The scope of this limited work being attempted will be clear from the following examples. For the article 'Soil toxicity and plant growth' by K. L. Lall and A. S. Sreenivasamurthy which appears in *Science and culture* (V. 15. 1949. Pp. 97-102) two author cards and three subject cards bearing the following class numbers are made:

581.143:631.453:631.415.3 (Growth from the point of view of plant physiology)

631.453:581.143:631.415.3 (Toxicity in soils) and

631.415.3:581.143:631.453 (Saline and alkaline soils)

Similarly for the article 'Vernalisation and photoperiodism: effect of summer and late sown rice' by N. K. Sen which appears in the *Journal of Indian Botanical Society*, (V.27.1948. Pp.111-8) one author card and three subject cards are made with the following class numbers:

581.143.26.03:633.18-1.531.1 (=Vernalisation)

633.18-1.531.1:581.143.26.03 (=Rice) and

631.531:633.18:581.143.26.03 (=Sowing)

For the article 'Soil conservation in the Bombay State' by J. K. Basu and L. Sreenivas appearing in *Indian farming* (V. 1. 1946. Pp. 242-4) two author cards and three subject cards are made as follows:

631.61:531.459 (54.71) (=Reclamation)

631.459:631.61 (54.71) (=Soil Erosion) and

(54.71) 631.61:631.459 (=Bombay State etc.)

The last card makes possible the entering together of all the agricultural literature relating to Bombay.

24 SELECTIVE WORK

Due to shortage of trained staff, the scope of documentation has had to be selective. For instance in the case of insects, only those articles which specifically deal with them as pests causing damage to crops are documented. Similarly in the case of fungi, documentation is restricted to only those articles which deal with them as organisms causing diseases to crop plants.

3 Quantity of Work

31 CURRENTLY-DONE WORK

The subject cards are filed in the order of their class numbers. Classified lists are typed out every month and circulated to agricultural research workers. These lists have proved to be popular and there is demand even from foreign countries.

So far, 3,600 articles have been indexed in about 18,000 cards. The monthly average is now 90 articles and 500 cards.

32 WORK TO BE DONE

But what is being done in a local library to meet the demands of local research workers is hardly enough for every kind of agricultural progress in India as a whole. In addition to the various State Departments of Agriculture, there are now thirty-five other agencies in India for popularising different aspects of agriculture. There are also 21 agricultural libraries. These libraries have already established exchange relation with 175 institutions all over the world. More than 4,000 bulletins, pamphlets, reprints and reports are received monthly from these institutions. The number of periodicals received by the Indian agricultural libraries exceeds 1,200; of these nearly 377 are exclusively devoted to agriculture and forestry. But many general periodicals also contain articles bearing on agriculture and they cannot be excluded from the purview of documentation without seriously narrowing the field of agricultural knowledge.

4 Need for Trained Staff

But unfortunately complete documentation has not so far been undertaken in any of the agricultural libraries due to shortage of trained staff. Yet this is work which cannot be neglected any longer. The sooner it receives the attention of the authorities, the scientists and the librarians the better it will be. Any delay in this matter is bound to have serious repercussions in the field of agricultural research.

5 A Scheme

A start may be made by indexing only the articles directly bearing on agriculture. Abstraction of articles will present many difficulties and may, perhaps, be deferred for the present. Since the holdings of the libraries of the Indian Agricultural Research Institute and the Indian Council of Agricultural Research together practically cover all the available literature in India, the main centre of the agricultural documentation service may be located in New Delhi.

51 AN ESTIMATE

Taking into consideration the periodicity of the approximately 377 periodicals which are specifically concerned with agriculture and forestry, the total number of issues per year will be about 3,500. Taking an average of 10 articles per periodical and making a due allowance for the agricultural articles appearing in other periodicals, the number of articles to be indexed annually may come to about 40,000. These may require about 200,000 entries.

The typing and indexing of these cards will involve 7,000 man-hours. Since alphabetical subject indexing is fraught with serious defects, the names of subjects should be translated into one of the standard systems of classification, preferably Colon or Universal Decimal System. This work, including the work of checking typed cards will involve at least 3,000 hours of work. Typing, duplication and despatch of the weekly or monthly lists will also involve considerable clerical work. In all at least 10 hands will be required for this job. Judged from the notable contribution this work will make to the progress of agricultural research in India, the cost involved will be negligible.

The scope of this work may be widened as more trained men and more money become available.

DOCUMENTATION OF MEDICAL LITERATURE

MAGNANAND

[Traces the increase of periodicals output in medicine and the development of abstracting service. Outlines a scheme for an Indian Medical Documentation Council.]

1 Growth of Medical Periodical Literature

Prior to the 17th century, scientific literature was published either as an essay or as a separate treatise, despite the fact that it ran to a few pages. With the growth of hospitals, scientific societies, and medical associations during the 17th century, there emerged a certain amount of scientific periodical literature in the form of proceedings, transactions, and reports of scientific bodies. Garrison (1934) mentions the appearance of about ten medical periodicals in Europe during the 17th century. It was the 18th century which witnessed the emergence of no less than 436 medical periodicals according to the same authority, out of which the greatest number was in German. It was during this century that specialised medical periodicals also began to appear and that proper index came to be provided to them. The 19th century witnessed all over the world a great increase in medical periodicals. In 1876 Billings recorded that as many as 1,150 enterprises had been made and about 250 were then in progress. This figure is worthy of comparison with the list of 1,000 medical periodicals listed as in progress to-day and indexed in the *Quarterly cumulative index medicus* (V. 38, 1945). In addition to these exclusively devoted to Medicine, it is held that about 2,000 other periodicals of medical interest are currently published, though not covered by the *index medicus*.

2 Medical Documentation

It was not long before the second World War that there arose a pressing need for abstracting service. Though abstracts of medical literature had been appearing for sometime past, they were not on sound lines. The art of abstracting has associated with it the problem of classification and cataloguing. This brings us to the stage of actual documentation. Immediately following the war (1939-45), the British Medical Association began the *Abstracts of world medicine* and the *Abstracts of world surgery*; and the Netherlands its *Excerpta medica* with several sections. At the instance of UNESCO and W.H.O. the organisation of international documentation of medical literature is being explored.

3 India

It may perhaps be safe to assume that medical periodicals in India are still in an infant stage. There are about 37 medical periodicals currently produced and of these 19 have an abstracts-section. The following are the obvious defects of the abstracting sections :—

1. No co-ordination;
2. No standard in subject headings;
3. Not classified; and
4. Haphazard coverage of periodicals.

This may be traced to the following defects in organisation :—

1. No central agency;
2. No interest taken by the All-India Medical Association; and
3. No help taken from documentation-specialists.

4 Indian Medical Documentation Council

The 8 medical societies and associations, the 33 medical colleges and schools, the 182 hospitals and asylums, the 12 medical research and pasteur institutes, and the several departments and scientific bodies including the Indian Library Association should set up an Indian Medical Documentation Council. It should consist of 10 members and a chairman, with the following functions entrusted to it.

1. Medical documentation;
2. Translation of documented material; and
3. Distribution.

Such a council anticipates the establishment of similar councils with parallel functions for each branch of science, namely physics, chemistry, biology, botany, etc.; with a central agency to co-ordinate their activities and to lay down principles for their guidance. Alternatively each council may entrust all their common functions to a National Documentation Committee for scientific literature and merely give it expert advice. To undertake documentation as a national enterprise will have the advantages of lowering the expenditure, of centralisation of classification and cataloguing, of quickness in translation, micro-filming, photo-stating and distribution. This centre can establish contacts with similar national organisations outside India, and also co-operate with an International Organisation for Documentation of Scientific Literature that may be set up in the near future. It is time that our country should move in the matter.

DOCUMENTATION IN AN ECONOMICS LIBRARY

J. MUKHERJI

[Problems of documentation in an Economics Library like analytical entries, arrangement of entries and manpower are discussed.]

1 Need for Analyticals

In these days economic problems engage much of public attention and their studies are therefore frequent. The mass of literature being produced in different branches of economics require to be marshalled scientifically before research workers can use them from the point of view of their specific requirements. But classification and cataloguing of books and periodicals as ordinarily understood do not succeed in doing it. A book whose broad tendency can be represented by a class number may have various facets which are not brought out by it. Nor do the ordinary entries in the catalogue prove sufficient to bring out these facets. It is only when minute analyticals are introduced that some form of documentation comes in and exposes a subject in all its multitudinous phases and facets.

2 Need of Governments

The impact of modern civilisation has given rise to many problems chiefly economical and administrative. The Government of to-day is not of a laissez-faire type but is increasingly thrusting itself into all possible affairs of human life with a view to bringing stability and growth. For its activities, planning is required. Everything that the Government does has to be considered in advance in all its pros and cons and also in the light of what other States have done in similar circumstances. So a good deal of information is necessary before the decision of Government can be formulated in any problem that confronts it; and the library with its materials documented in a detailed scientific way is an essential help in arriving at decisions.

21 ANTICIPATION OF DEMAND

Apart from broad problems such as 'determination of tariff policy', 'reciprocity in trade relations', 'self-sufficiency in food', 'taxation', etc., for which ample literature exists in any standard Economics Library, it becomes difficult for a librarian to find materials on new subjects such as 'European Payments Union', 'Point Four', 'Grey's Report', 'Schuman Plan', or less known subjects as 'Economic development of Tibet', 'Nova Scotia', etc. Such new or less known problems may not have been studied

prominently in books and may have been treated only in periodical literature. So the librarian has to be wide awake to such matters. He should also anticipate the demand of his clientele. He should prepare subject entries in slips or cards showing class number, author, title, abstract of the item, date of publication, source etc. with due regard to the fact that the arrangement should marshall the entries in the order of filiation of their specific subjects or be of an alphabetical order. To be of service to those who are entrusted with advising the Government on economic policies, the librarian should be provided with the necessary proficiency in documentation technique and familiarity with economic literature and be allowed to acquire the necessary books and periodicals and library equipment.

22 ACQUISITION OF MATERIALS

In such a library important periodicals from all over the world should be purchased or attempt should be made to receive them on a complimentary basis. The librarian should also establish contact with different countries in the world for procurement of state documents at state level and in this respect, his task will be facilitated by the help he gets from the countries through the diplomatic offices of the world. Diplomatic offices constitute the best channel through which the flow of publications can be well maintained. Only, the librarian and his staff have to remain alert for the reception of the required publications in their proper sequence.

3 Approach

31 SUBJECT APPROACH

In an Economics Library of a modern State, the importance of geographical approach is greatly felt. It has been the experience of the author to find out materials countrywise even to encounter such question as 'how many periodicals are received from a particular country?'—in fact subjects are now-a-days often treated countrywise as international relation from the point of view of trade, industry, etc. are being forged every now and then—and in this context a periodical from a particular country will deal more extensively on that particular country's products, trade, currency etc., than in any other periodical originating elsewhere. For instance, South Africa's gold problems will not be discussed in any other periodical more fully or more frequently than in periodicals of South African origin.

32 CLASSIFIED *vs.* DICTIONARY ARRANGEMENT

Now the problem is how best to bring out and display the mass of materials which are produced on different branches of

economics. One way as has been shown above is to treat a subject countrywise i.e. the documentation slips or cards will show the country first and then the subject and another way is to treat the same article from the point of view of subject first. And for purpose of completeness it is desirable that both steps should be adopted. Discretion however is to be used where place value is nil and then the documentation slip or card on a particular item will show only the subject entry as its main entry. To make the matter clear let us take a concrete example. An article is entitled 'Banking problems in India'. The article is to be treated both ways because if some body wants to study 'Indian economics,' he will see entries under India and one of them will be 'India-Banking'. On the other hand a study of banking by a researcher will be facilitated by a heading such as 'Banking-India'. Alongside this entry, entries such as 'Banking-England', Japan, U.S.A., U.S.S.R. etc. will also be immensely helpful in giving to the seeker an entire array of literature on banking in the library. Now the arrangement contemplated in keeping the cards is of the dictionary type as against the classified type and the former is considered to be more convenient in that classification number is not required to be given. The dictionary arrangement of headings through its subject headings furnish a systematic approach to all phases of a large subject by means of an alphabetical list of terms and through interlocking references. The classified arrangement does the same thing but it does not adopt an alphabetical arrangement; instead it adopts a logical order supplemented by an alphabetical index to disclose specific entries.

4 Present Neglect

It is, however, sad to note that the documentation work is neglected in most libraries not because the librarian is indifferent to it as it is to his own advantage to keep in a good order all the materials available on a subject and country in the library, but because the staff given to the librarian is either inadequate in number or not competent to do documentation work. Abstracting of articles, an important item of documentation, requires a discipline of mind which has to be acquired and this can be had only when the person concerned has studied the subject which he is to document. Therefore, unless staff, qualified and adequate in number, is provided documentation will continue to be of theoretical interest only.

25 TECHNIQUE

PAPER 251

DEPTH-CLASSIFICATION ITS PROBLEMS AND SOLUTIONS

S. R. RANGANATHAN

[Refers to a mood of despair due to wrong diagnosis of the difficulties in the classification and cataloguing technique needed for documentation and points the need for research on optional facets and primordial schedules to break down the surviving rigidity which obstructs progress in depth-classification.]

1 Localisation of Difficulty in Classified Arrangement

In Classified Arrangement of entries in a documentation list, difficulty is mostly localised in the construction of class number. Even the choice and rendering of the heading of class index entries is tied up to Class Numbers by the Chain procedure. Thus, all that is needed is that the class number should be individualising or co-extensive and expressive.

2 Diffusion of Difficulty in Dictionary Arrangement

In Dictionary Arrangement too, difficulty can be reduced to one of class number. But it is not so reduced in the widely prevalent practice of to-day, since the choice and rendering of subject headings—specific or *see also*—is made to depend on flair and not on an objective method or discipline. The result is that the difficulty is diffuse; it is not seen together or localised. It is hidden by the subject-fogginess inseparable from alphabetical arrangement. The difficulty in question is inability to satisfy the Canon of Consistency. Let alone documentation which includes micro-units of thought. Even in catalogues of books, the violation of the Canon of Consistency is colossal. Recently, I have had opportunity to examine the subject-entries in several otherwise fine libraries in the very home of the dictionary catalogue. Sensitiveness to consistency appears to have totally gone. It is even worse. When inconsistency is pointed out, a mood of resignation or a kind of faith in fate or a bravado spirit emerges and leads to words like "It works all right". "No body complains." "We do not care for consistency". It is forgotten that reliance on "It works all right" is the greatest enemy of progress and of the urge "to make it work better".

If Melvil Dewey had depended on "No body complains", the library profession would not have had to bother with classification at all. The "We do not care for consistency" attitude is denying the paramountcy of the Laws of Library Science in all library service.

3 Despair and Its Avoidance

31 Abandonment of Classification

Among those who are aware of the reality and seriousness of the difficulty, a mood of despair appears to set in. This mood leads to a wrong understanding of the etiology of the difficulty and the prescription of a fatal remedy. This is due to failure to trace the difficulty to the adoption of an enumerative classification to handle an infinite universe throwing forth new categories incessantly—which the field of knowledge is, especially when depth-thoughts of great intension have to be individualised. This failure leads to the fatal remedy of abandoning classification altogether. When driven to face the full implications of such a remedy, there is a pathetic resignation to revert to alphabetical arrangement of books on shelves and to abandon even open access—the greatest gift of the U.S.A. to the library world. Once the proposal of abandoning open access comes to be entertained, 'compact shelving' comes in to arrogate to itself paramountcy in library service and to give a raw deal equally to any classification whatever and to strict alphabetical arrangement of books.

32 Potency of Analytico-Synthetic Classification

This chain of dangers will be averted if the difficulty experienced is traced, not to classification *qua* classification, but to the wrong brand of classification used. In fact, at the book level, an analytico-synthetic classification overcomes the difficulty. Its potency has been examined in my *Classification, coding and machinery for search* released by UNESCO in June 1950 and *Classification and communication* being published by the University of Delhi.

4 Rigidity in Facet Formula

41 RIGIDITY IN THE NUMBER OF FACETS

At the level of documentation—i.e. micro-units of thought—difficulties still arise, which are traceable to the rigidities still persisting in an analytico-synthetic classification, though it has removed the rigidities peculiar to enumerative classification. The remedy should be to remove these surviving rigidities. One of these is the rigidity in the facet-formula providing only a definite number of facets. We are now examining how far this rigidity can be removed by providing for any number of optional facets in the measure of the needs of a specific subject.

42 RIGIDITY IN THE ORDER OF FACETS

To secure conformity to the Canon of Consistency and to avoid synonyms in the classificatory language, our present technique makes us view any facet as a manifestation of the five fundamental categories—personality, matter, energy, space and time—and to design distinctive connecting symbols for all such manifestations. Their design still allows one form of rigidity to persist *viz.* the denial of freedom to change the order of groups of facets when a specific subject demands it. Further work is needed to remove this rigidity.

5 Primordial Schedules

Further work is also needed to make an enumeration of foci to answer the needs of all possible oft-recurring manifestations of personality, matter and energy facets and possibly also of the other two groups of facets. I call the result sought by the name 'Primordial Schedules'. My present conjecture is that all such possible dependent foci—i. e. foci in all such facets—can be reduced to 120 primordial schedules. If this proves impracticable, I conjecture that 2,880 primordial schedules might be practicable. This is the result of a *a priori* approach. I felt some consoling surprise when the classifiers of the Patent Office of U.S.A. told me last September that the patents which they had to classify led them to endeavour to make their classification depend on about 2,500 primordial schedules. This near-coincidence may be an indication that the line of solution pursued by the Patent Office and myself, though from opposite directions, is a sound one.

6 Lesson of U.D.C.

61 Its Inadequacy

Half a century ago, a similar crisis arose in documentation at a less deep level. But the Brussels Institute did not accept defeat and abandon classification. It invented the U.D.C. It got it by adopting the D.C. as its core and grafting to it certain features corresponding to what we have begun to denote by the terms facets and phases. Absence of a regular classificatory discipline, however, led to an arbitrary—and not truly empirical—analysis at the ideal-level and a make-shift design at the notational level. The result continued to be fairly satisfactory till recently. But now it happens that the minuteness of the micro-units of thought getting embodied in articles is more than what the U.D.C. is able to negotiate. Difficulties appear as we descend to greater depths.

62 Remedy

My diagnosis is that the break-down is due to the rigidity inherent in the enumerative nature of the D.C. core which is so fundamental a part of the U.D.C. This rigid core makes the U.D.C. suffer from all the handicaps of an enumerative classification in spite of the analytico-synthetic veneer by which it has covered it up. What is needed is an all-out pursuit of analytico-synthetic classification, in which the enumerative feature is confined to the schedule of dependent foci in primordial facets. Even there, if the enumeration conforms to unscheduled mnemonics, the resilience of depth-classification will be even greater.

7 Topics for Research

Future work should consist of

- (1) collecting the lists of categories being isolated by experts in several specific subjects;
- (2) boiling them together, so to speak, and distilling out the primordial schedules; and
- (3) designing, if possible, objective rules to determine the order of facets and phases, which introduce less of rigidity than my present technique for order of optional facets.

OPTIONAL FACETS IN THE DOCUMENTATION OF AGRICULTURE

D. B. KRISHNA RAO

[Illustrates the use of Optional Facets to get individualising of Class Numbers for Micro-Units of thought in C.C., and the failure of the U.D.C. in this respect].

1 Technique of Optional Facets

Optional Facet is a new conception in Library Classification, evolving in its fullness in Colon Classification. It is found implied in the U.D.C. It has great potentiality to sharpen the technique of documentation. The following is a brief account of the concept at the present stage of its evolution.

1. According to the optional-facet-concept, there is no need to give a special facet-formula to any class, main or canonical.

2. The old practice of indicating a vacant facet by more than one colon is no longer necessary.

3. All specific subjects are analysable into facets which may be regarded as manifestations of the five fundamental elements, Personality, Matter, Energy, Space and Time, singly or in their several combinations with repetitions, if need be, each facet representing only one of the elements.

4. The ordinary arrangement of the facets of the five fundamental elements in the decreasing order of concreteness is as follows: Personality, Matter, Energy, Space and Time. The connecting symbol for each of these facets is comma, semi colon, colon, dot and dot respectively. To illustrate the order of arrangement of specific subjects, I have given below a few class numbers for a few specific subjects, taking the letters *p*, *m*, *e*, *s* and *t* as the foci in the respective facets of Personality, Matter, Energy, Space and Time.

J

J. s. t

J: e. s. t

J; m: e. s. t

Jp: m: e. s. t

As per rules of Colon Classification, the connecting symbols need not be placed between the main class digit and the first facet and therefore the 'Comma' between J and *p* is omitted in the last of the above class numbers.

2 Illustrations from Agriculture

21 MANIFESTATION OF PERSONALITY

Let us now see how the optional facets are applied in the documentation of agriculture. The three facets [U] [P] [C] together fix the crop focus which is a manifestation of Personality. Each of these is itself a manifestation of personality. No connecting comma is inserted between them as it is secured that the significant digit in the Utility and Part facets will consist of one digit only.

22 MANIFESTATION OF ENERGY

The farming facet is a manifestation of energy. The connecting symbol for this facet is 'Colon'. Besides, each focus in the farming facet may call for additional facets of its own, which may be manifestations of Personality, Matter or Energy. These have been illustrated in my paper *Classification of agriculture in Abgila*, V. 1 pp. 108-129.

23 MANIFESTATION OF TIME AND SPACE

In depth classification it is often found necessary to add the Organ, Geographical and Chronological facets to individualise specific subjects. In most of the specific subjects, where the Chronological facet figures, the Geographical facet will also figure and precede the Chronological facet. Therefore these two facets have been taken together for illustration.

3 Examples

31 FIRST EXAMPLE

In the facet-analysis of the specific subject 'Agriculture in India today' the Geographical and Chronological facets alone appear. The Crop and the Farming facets are either multifocal or diffuse or absent and therefore do not call for representation. But the subject admits of Geographical and Chronological facets. Accordingly the facet-formula for this specific subject becomes

[Agriculture] . [Geographical] . [Chronological]

or

J . [G] . [C]

and the subject 'Agriculture in India today' will get translated as follows.

C.C.No.	Specific Subject	U.D.C.No.
J.44.N5	Agriculture in India today	63(54) "1950"

32 SECOND SET OF EXAMPLES

A few other illustrations are given below.

C.C.No.	Specific Subject	U.D.C.No.
J.1711.N5	Agriculture in the Far East	63(1-11)"1950"
j.161.N5	Tropical Agriculture	63(213)"1950"
J37.153.N5	Pomology in the mediterranean countries.	634(1-015)"1950"

33 THIRD SET OF EXAMPLES

The following are illustrations where foci in the farming facet take Geographical and Chronological facets without calling for other facets peculiar to them.

C.C.No.	Specific Subject	U.D.C.No.
J:1.44.N5	Indian soils	631.4(54)"1950"
J:2.44.N5	Manuring in India	631.8(54)"1950"
J:4.44.N5	Crop disease in India	632(54)"1950"

34 FOURTH SET OF EXAMPLES

In the documentation of micro-units of thought in Agriculture the addition of an organ facet after the disease facet is often necessary to individualise the specific subject. The bacterial disease of Cotton caused by *Xanthomonas malvacearum* is called black arm, angular leaf spot and boll rot according to the organ affected viz. stem, leaf or fruit. It is useful to put all information on each one of these together by individualising each. This is secured by the addition of an organ facet after the disease facet.

Consider the specific subject 'Dissemination of Angular leaf spot of Cotton. The facet analysis will transform this into:—Agriculture [Cotton]: [The Bacterial disease], [Leaf]: [Dissemination] mentioned

Which in terms of the fundamental categories is

J [P] : [E], [P] : [E]

Translating into Colon Language we get

J781:424X1M,15:2

It is to be noted that the causal organism *Xanthomonas malvacearum* is represented by X1M where X represents the genus *Xanthomonas* and M represents the species, *malvacearum* and 1 is the signature digit indicating change over to species.

Next consider the specific subject "Dissemination of black arm of Cotton." The facet analysis will transform this subject into: Agriculture [Cotton]: [The Bacterial disease], [Stem]: mentioned

[Dissemination], which in terms of fundamental categories is

J [P]: [E], [P]: [E]. Translating into Colon Language we get J781: 424X1M,14:2.

Similarly the facet analysis will transform the specific subject "Dissemination of boll-rot of Cotton" into Agriculture [Cotton]:

[The Bacterial disease], [Fruit]: [Dissemination]. Translating mentioned

into Colon language we get J781: 424X1M,17: 2. It may be noted that the connecting symbol used for the organ facet is 'comma', since it is a manifestation of the fundamental element Personality.

On the other hand, the specific subject "Dissemination of bacterial disease of Cotton by *Xanthomonas malvacearum*" will be represented by J781: 424X1M:2. The four class numbers are given in proper sequence below to bring out the effect of individualising the specific unit of thought by each class number.

C.C.No.	Specific Subject	U.D.C.No.
J781: 424X1M:2	Dissemination of Bacterial disease of Cotton by <i>Xanthomonas</i> .	633.51—2.31132
J781: 424X1M,14:2	Dissemination of black arm of Cotton.	633.51—2.31132: 581.44
J781: 424X1M,15:2	Dissemination of Angular Leaf spot of Cotton.	633.51—2.31132: 581.45
J781: 424X1M,17:2	Dissemination of boll-rot of Cotton.	633.51—2.31132: 581.47

The concept 'etiology' is not represented in the U.D.C. numbers. The U.D.C. schedule for Agriculture does not appear to provide for it. Perhaps the Medicine schedule will have some hint on this. As that schedule is not available, I have not ventured to individualise the U.D.C. numbers by the addition of the digits to represent etiology.

35 FIFTH SET OF EXAMPLES

Let us next consider the diseases of Apple Crop caused by the incidence of the bacteria, *Bacillus amylovorus*, on different organs of the plant. These are known as twig blight, leaf blight, blossom blight, or fruit spot blight according as the organ affected is stem, leaf, flower or fruit. The specific subjects and the Colon and the U.D.C. Numbers in these cases are given below.

C.C.No.	Specific Subject	U.D.C.No.
J371:424B1A:2	Dissemination of Blight of Apples.	634.11—2.315
J371:424B1A,14:2	Dissemination of twig blight of Apples.	634.11—2.315:581.44
J371:424B1A,15:2	Dissemination of leaf blight of Apples.	634.11—2.315:581.45
J371:424B1A,16:2	Dissemination of blossom blight of Apples.	634.11—2.315:581.46
J371:424B1A,17:2	Dissemination of fruit spot blight of Apples.	634.11—2.315:581.47

4 Potency and Dangers

In conclusion it may be stated that the effect of optional facet concept is that no special facet formula need be given for any main or canonical class. But a general formula in terms of the fundamental categories is applicable to all as warranted by the facet analysis of the specific subjects, representing only the facets that occur in each specific subject. This evasion has its potency as well as its dangers.

To avoid the dangers without losing the potency, many points in the use of this concept for sharpening the focus should be investigated and definite rules should be formulated so as to avoid the formation of synonyms.

ABSTRACTING PERIODICALS— STANDARD FOR LAY-OUT

S. R. RANGANATHAN

[Examines the lay-out of some abstracting periodicals and gives an alternative specification for a minutely classified abstracting periodical, made of three index-aids as the first three parts and the text as the fourth part.]

0 Introduction

01 AVOIDANCE OF TIME-LAG

Time is of the very essence of documentation work. Nascent thought should be broadcast among all the workers in the world through abstracting periodicals with as little time-lag as possible. To secure this objective, abstracting periodicals should be issued as weeklies, fortnightlies, monthlies or quarterlies, in order of preference and practicability. The frequency of issue necessarily breaks up the sequence of entries. Cost stands in the way of avoiding this by cumulation from issue to issue until the annual volume cumulates the whole thought of the year. The only practicable alternative, which is in vogue in most cases, is to provide an annual index to be bound along with the several issues.

02 FACILITATING TEMPO

The saving of the subjective time and the tempo of the worker, while looking up an abstracting periodical, is also of the essence of documentation work. It is here that the design of the lay-out of an abstracting periodical and of its annual indexes in organic relation with one another gains in importance.

1 Dictionary Arrangement

The extreme form of Dictionary or Alphabetical Arrangement, in which each article occurs under the name of each of its authors, and specific subjects and has the necessary upper link *see also* entries to back these, is often found in Wilson's bibliographies. Paper 255 deals with the cataloguing rules needed by this type of abstracting periodical. As Wilson makes them all cumulative, they do not call for an Annual Index and thus do not present any special problem.

2 Amphibious Arrangement

In most of the other abstracting periodicals, the practice appears to be the amphibious one of dividing the region of knowledge covered into a few broad divisions and arranging the articles in each division alphabetically by the name of the author.

But this practice flouts the Canon of Consistency and the Canon of Permanence in the choice, rendering, and arrangement of the divisions. To give but one illustration the *Psychological abstracts* was obliged to make the following three major changes in the course of 1948:—

1. In January, "Clinical psychology, guidance and counselling" was transferred from under "Behaviour deviation" to under "Educational psychology". In the same month the section "Psychological test" was dropped and a subdivision for test was added to the "General" section.

2. In May, "Sensory defects," particularly "blindness and deafness" were transferred from under "Receptive and perceptual processes" to under "Behaviour deviation".

3. In September, the sub-section "Sensory defects" was renamed "Physical handicaps".

The editorial note in January adds significantly "These changes still represent tentative efforts to make the arrangement of the abstract most widely useful. Critical comments from users of the journal are earnestly desired".

In the editorial note of July we find the remark "The increased fineness of the classification scheme will have to serve as a subject guide for the present." But the fineness of classification defeats its purpose by the absence of either a systematic schedule of the classification used or an alphabetical index to the classes major or minor, under which the entries are featured.

21 PALLIATIVE

The *Mathematical reviews* removes these defects to some extent. It provides a table of contents in which the major subject-headings are listed systematically with the pages of the annual volume in which they occur. In addition to the author-index, it gives also an alphabetical subject index. Some of the headings like "Algebras-linear" are only label headings without any entries directly under them, but acting merely as a major subject-heading under which follow a series of sub-headings in systematic order. The *see also* references are profuse. This is no doubt an improvement and a palliative. This is not, however, sufficient to guide a reader to his quarry, so to speak, with ease. The entries under a subject-heading mention only the names of authors, but not the

titles or the pages in which they are abstracted. The arrangement of specific subjects is not mechanised by class numbers.

This is a tangled problem in abstracting periodicals of this amphibious type—neither all-through alphabetical nor all-through systematic. This paper does not go into the methods of improving the design of the lay-out of this type.

3 Minutely Classified Arrangement

A recent tendency has been to introduce an all-through classified arrangement—minutely classified, almost to the point of individualisation—in the individual issues and to fit the annual volume with an author-index and a systematic index of subjects, apart from the author-index and the classification schedule which are given in each issue. The *Physics abstracts* is typical of this tendency. Its annual index-aid consists of (1) Contents page; (2) Schedule of classification; (3) Author index; and (4) Alphabetical subject index.

1. The Contents page gives a systematic list of subject divisions—neither specific nor too broad—with the numbers of the pages in which the abstracts occur. It gives on an average about ten page-numbers against each subject division without any indication of the subdivision which occurs in each page. In fact, it is only the first of a set of consecutive pages, to be looked up, that is given. The average number of pages to be looked up is two. This means that the contents-page helps one only to restrict one's search (for the abstract sought) to about 20 pages distributed in about 10 points of the annual volume. This is no doubt much better than searching through a whole volume of 350 pages. But, at the time one looks up references, one has seldom the mood to look through a couple of pages in ten different places. On the whole, this is not sufficiently helpful for subject-approach.

2. The Schedule of the classification gives no reference to the text.

3. The Author Index gives the serial number of the abstract. This is quite definite and of maximum possible help for author-approach.

4. The Alphabetical Subject Index gives the class numbers against the names of the subjects that occur in the schedule of classification. This is followed by their subdivisions which are not individualised by the scheme of classification. Each subdivision is followed by the serial number of the abstract of which it forms the subject matter.

31 ENTRY WORD

There is much discrepancy between the alphabetical subject index and the class number representing the article abstracted. The alphabetical subject index may not help one who does not, by chance, divine the exact entry word which had been used to index an abstract. But if he hits on the right entry word and runs his eyes down the subheadings, he will find the serial number of the exact abstract he seeks.

32 ALTERNATIVE SCHEME

The following alternative scheme for the lay-out of text and index-aids is suggested to obviate this handicap when the abstracts are arranged by close-fitting or individualising class numbers in each issue and there is no annual cumulation.

The Annual Volume is to be in four parts in the following order:—

- (1) Alphabetical Index of Authors and Series;
- (2) Alphabetical Index of Classes;
- (3) Classified Index; and
- (4) The Text (made up of the fascicules issued from time to time).

The first three parts constitute the index-aid to the annual volume.

320 Preliminaries

1. The pagination of the Indexes and the Text should be in two different sequences and should be printed at bottom-margins.

2. The outer ends of the two top-margins of the double open page should give:—

- (1) The inclusive alphabetical caption of the entry words, in the case of the alphabetical index of authors and series;
- (2) Similarly, in the case of the Alphabetical Index of Classes;
- (3) The inclusive class numbers printed upto three digits or two facets as the case may be, in the case of the Classified Index; and
- (4) The inclusive serial numbers in the case of the Text.

3. The inner end of the top-margin of the double open page should give:

- (1) The volume number and the year respectively in the case of the three Index Parts; and
- (2) The volume and issue number, and the year and month or week—number as the case may be in the case of the Text.

321 Alphabetical Index of Authors and Series

In the case of the Alphabetical Index of Authors and Series, the heading should be printed in capitals and small capitals of antique type and the serial number at the end of the entry should be in antique type.

322 Alphabetical Index of Classes

1. In the case of the Alphabetical Index of Classes, the Heading should be in block letters and the Sub-Headings should be in italicised block letters and the connecting word 'See' should be in italics.

2. In the case of a Class Index Entry, which is the Specific Subject of an entry in the text, the title of that entry should be entered just below the Class Index Entry concerned, indented as for a paragraph.

3. If there are two or more entries in the text having the same specific subject, their titles should all be entered in alphabetical order one below the other, each being indented as for a paragraph.

4. The serial number of each title should be printed at the end of the title in antique type.

323 Classified Index

1. The Classified Index is to serve a double purpose viz. to serve as a schedule of classification and to serve strictly as a Classified Index. It should therefore be printed as the schedules of classification are usually printed in schemes of classification, with all helpful typographical variation and display. The only difference is that, in the case of a class which forms the specific subject of an entry in the text, the heading and the short title of that entry followed by its serial number should be entered below it, each of its lines indented as for a paragraph.

2. The heading should be in capitals and in small capitals of antique type and the serial number in antique type.

3. If there are two or more entries in the text having the same class as their specific subject, they should all be entered in alphabetical order one below the other.

324 The Text

1. In the Text, the class number and its translation into natural language should be entered as a feature-heading.

2. These feature-headings should be helpfully modulated ones.

3. Full advantage should be taken of the Canon of Context so as to economise in the words which occur against successive class numbers.

4. Full advantage should be taken of typographical variation and display to indicate the subordination of successive feature-headings.

5. The entries will occur only below such feature-headings as form their specific subjects.

6. The headings of the entries should be in capitals and small capitals of antique type.

7. The entries of the text of the volume taken as a whole should be numbered serially. The serial numbers should be the Entry items for all entries and they should be in antique type.

33 EXAMPLES

The specification given in section 32 is illustrated in the examples given at the end of paper 254.

34 INDIVIDUAL ISSUES

In each individual issue, there should be temporary index-aid along similar lines, with the omission of classified index. This should occur in the preliminary pages with pagination of their own. The preliminary pages should be such as may be discarded while binding the completed volume.

35 NOTES IN INDIVIDUAL ISSUES

The preliminary pages of each individual issue should also contain editorial notes on (1) changes in classification, (2) the additions and omissions in the list of periodicals abstracted, and (3) changes in the titles of periodicals abstracted. These pages too should be such as may be discarded while binding the completed volume.

36 COMPLETED VOLUME

The preliminary pages of the completed volume should give:

- (1) a consolidation of the editorial notes mentioned in 35;
- (2) an editorial note on changes in the index-aid;
- (3) a classified list of the periodicals abstracted, with the name of the abstractor mentioned against each;
- (4) an alphabetical index to the titles of the periodicals abstracted; and
- (5) an alphabetical index to the names of the abstractors.

AMENDMENTS TO CLASSIFIED CATALOGUE CODE TO SUIT DOCUMENTATION WORK

M. L. NAGAR AND S. P. PHADNIS

[Enumerates the amendments to be made in the *Classified catalogue code* to adapt it for entries in abstracting periodicals and gives some examples of entries].

0 Introduction

Cataloguing of micro-units of thought like articles in periodicals, so dominant in documentation work, differs in some respects from cataloguing of macro-units of thought like books. To be applicable to documentation work, the *Ccc*, originally designed for macro-units, therefore, requires the following amendments. The numbers of the Rules are those given in the *Ccc* (Edn. 3, 1951).

01. GENERAL AMENDMENT

Wherever "Book" occurs, replace it by "Documented material".

1 Main Entry

11 AMENDMENTS TO RULE 1

1 Replace category 1 by "Serial Number".

The main entries occurring in each volume of an abstracting periodical are to be given serial numbers beginning with 1.

2 Delete "5 Accession number".

This is necessary as there can be no Accession Number for an article in a periodical. Even if the item documented is a whole book there can be no Accession Number as a Documentation List is independent of any individual library whose collection alone can have Accession Numbers.

3 Add "5 Occurrence Note; and

"6. Abstract

"in the case of micro-units which form parts of other publications; or

"5 Collation and Imprint, and

"6 Annotation wherever necessary

"in the case of independent publications".

In a Documentation List, an entry should show where the documented material occurs, if it is not an independent publication.

In the case of independent publications, collation etc. which may be omitted in a library catalogue, should necessarily be given in a Documentation List which has no reference to any particular library collection.

12 AMENDMENT TO RULE 12

- 1 In categories 2, 4, 5 and 7 delete "two".

It is desirable that the names of all the joint authors should be featured in a Documentation List, as readers are likely to make approach through the name of any one of the authors known to them.

13 AMENDMENT TO RULE 122

- 1 Delete all the words after the first "two" and insert in their place "or more Joint Personal Authors, all the names are to be used as the Heading with the necessary punctuation marks and the conjunction "and" in appropriate places.

- 2 Delete Rule 1222.

These are consequences of the amendment in section 12.

14 AMENDMENTS TO RULE 12522

- 1 Insert "or more" between "two" and "Joint".

- 2 Replace "both" by "all".

- 3 Replace "which are to be connected by the word and" by "inserting commas and "and" at appropriate places."

- 4 Delete Rule 12523.

This is to secure consistency with the amendments in section 12.

15 NEW RULE AFTER 1313

- 1 Add the following Rule after 1313.

"1314 If the title is in a language other than the favoured language or the languages prescribed for the purpose, insert after the title-portion the translation of the title into the favoured language as a separate sentence and enclose it in square brackets.

It is believed that this will be helpful to readers who are not familiar with the language of the original.

16 AMENDMENT TO RULE 15

- 1 Replace Rule 15 by the following:—

"15 Occurrence Note.

"15 An Occurrence Note is to be enclosed in square brackets.

"151 If the occurrence is in a periodical publication the Occurrence Note is to consist successively of

1. the title of the periodical publication in standard abbreviated form;

2. a full stop;

3. the number of the volume, if any;

4. a full stop, in case category 3 is used;

5. the year of the volume;
6. a full stop; and
7. the pages of occurrence in inclusive notation.

"152 If the occurrence is in a book the Occurrence Note is to be written on the analogy of Rule 14312."

17 NEW RULES AFTER RULE 15

- 1 Insert the following Rules after Rule 15

"16 Abstract

"16 The abstract is to be written in a style subordinated to that of the rest of the Entry.

"161 The abstract is to be given in the favoured language or languages, as prescribed.

"162 The abstract is to be taken from the abstractor."

- 2 Renumber Rule 16 and its subdivisions as 17 and its subdivisions.

2 Added Entries

21 AMENDMENT TO RULE 3201

- 1 Delete "and Intermediate Section".

- 2 Replace "semicolons" by "four spaces".

22 AMENDMENT TO RULE 321

1 In category 2 replace the words "second author or collaborator" by the words "each of the joint authors or collaborators."

This is a consequence of the amendment in section 12.

23 AMENDMENT TO RULE 322

1 In Rule 322, replace the second half of the sentence by the following:—"and the Index Number is to consist of the serial number of the Main Entry."

This is essentially an economy measure to reduce the cost of production and to make reference from the alphabetical index to the main part easy.

91 Volume Index

Add the following Rules:—

Chapter 91

Volume Index

91 Each volume of a Documentation Periodical is to be provided with a Volume Index.

910 A Volume Index is to consist of the following parts in the order given:—

- 1 Book Index Entries arranged alphabetically;
- 2 Class Index Entries arranged alphabetically; and
- 3 Classified Index arranged by class numbers.

911. As a result of the amended rules on Book Index Entries, each entry will consist of the heading, the short title and the serial

number, as shown in Section 1 of the examples at the end of this paper.

912 The Class Index Entries are to be according to the rules of the *Classified catalogue code* with the following exception:—

If a class has entries under it in the text, the headings, and the serial numbers of each of them should be entered as successive additional sections after the class index entry.

For illustration, see Section 2 of the examples at the end of this paper.

913 The entries in the Classified Index should consist of:

- 1 Each of the entries which should occur in the schedule of the Fully Worked-out Class Numbers, on which materials are listed in the text; *followed by*
- 2 The Serial Numbers of all the entries occurring under it in the different fascicules of the text printed as separate sentences in the same section; and *preceded by*
- 3 All its upper link entries as they should occur in the Schedule; of Fully Worked-out Class Numbers.

9131 The entries functioning as Schedule of Classification should be printed as they would be in a Schedule of Classification taking full advantage of typographical variation and display to indicate subordination of successive classes and of the Canon of Context to secure economy in words. The Classified Index will in reality be the relevant extract from the schedule of the fully worked-out class numbers according to which the main entries are arranged. It will also serve as a classified index to the entries in the text. In spite of the entries occurring in classified order in the text, this classified index is necessary in the volume-index as the entries in the text stand broken up into as many sequences as the number of fascicules which make up the volume.

914 For the main entries of the index entries illustrating the above three specifications see section 4 of the examples at the end of this paper.

92 EXAMPLES

The following examples relate to 8 entries taken from V. 51 (1948) of the *Physics abstracts*. Their main entries are featured in section 4 (Text) as if they all occur in the same issue. As a result, section 3 which illustrates the Annual (Cumulative) Classified Index appears to reproduce them in the same order as in section 4 (Text). But, this will not be so in the actual Classified Index as it will index entries belonging to different issues of the annual volumes—that is entries arranged in the Text in different classified sequences.

SECTION 1

Book Index Entries

Note:—The Arabic numbers in black face give the serial numbers of the Text in section 4 where the main entries with the abstracts will be found.

- ASUNDI (R. K.) and VENKATESWARLU (P.). On continuous emission bands of ICI and IBR. 2.
- HERZBERG (Gerhard). Infra-red and Raman spectra of poly-atomic molecules. 5.
- KESHAVAMURTHY. *Jt. auth.* Fan-type radio meteorograph. 8.
- KRISHNAN (R. S.). Vibration spectra of the alkali halides. 6.
- MOLECULAR SPECTRA and MOLECULAR STRUCTURE.
2 Herzberg: Infra-red and Raman spectra. 5.
- RAMAN (C. V.). Dynamic X-ray reflections in crystals. 7.
—Infra-red spectrum. 4.
- RAMANATHAN (K. G.). Infra-red absorption spectrum of diamond and its variations. 3.
- THATTE (R. P.). *Jt. auth.* Fan-type radio meteorograph of the IMD. 8.
- VENKATESWARLU (P.). *Jt. auth.* on continuous emission bands of ICI and IBY. 2.
- VENKITESHWARAN (S. P.), THATTE (R. P.) and KESHAVAMURTHY (A.). Fan-type radio meteorograph of the India Meteorological Department. 8.
- VON KEUSSLER (V.). Über Angleichung der Krümmung von spektrallinien an eine Konstante Spaltkrümmung. 1.

SECTION 2

Class Index Entries

Note:—This is an Alphabetical Subject Index to the Class Numbers occurring in the Systematic or Classified Index to the Entries in the Main Part of the Abstract. It lists Subject Headings in alphabetical order. The Numbers given against the directing word 'See' indicates the Class Number of the subject concerned. Wherever a specific subject has reading material, i.e., an article or a book, on it in section 4 (Text) an additional section is added. It consists of the surname(s) of the author(s) and the serial number in black face type.

ABSORPTION. *Optics.* See 535.34

BANDS. *Emission spectra.* See 535.338.4

Asundi and Venkateswarlu. 2.

CHEMISTRY. See 54

COMPOSITION. *Spectra.* See 535.338

CRYSTAL. *Absorption.* See 535.343.2

CRYSTALLOGRAPHY. See 548

—in relation to Diamond, *spectra*. See 535.343.2—15:548

—Raman effect. See 535.375:548

DIAMOND. *Spectra*. See 535.343.2—15

Ramanathan. 3.

EMISSION spectra. *Optics*. See 535.33

GENERAL CRYSTAL in relation to DIAMOND, *Spectra*. See 535.343.2—15:548.0

Raman 4.

GEOLOGY. See 55

INSTRUMENT. *Meteorology*. See 551.508

LUMINESCENCE. *Optics*. See 535.37

METEOROLOGY. See 551.5

MOLECULAR scattering. *Optics*. See 535.375

—STRUCTURE. *Crystal*. See 548.7

——. —in relation to Raman Effect. See 535.375:548.7

Krishnan 6.

OPTICS. See 535

PHYSICS. See 53

PROPAGATION. *Optics*. See 535.3

PURE SCIENCE. See 5

QUANTUM THEORY. *Molecular scattering. Optics*. See 535.375

RAMAN EFFECT. See 535.375.5

Herzberg 5.

SPECTROGRAPH. See 535.33.072

Von Keursler 1.

UPPER-AIR. *Instrument*

Wenkiteshwaran, Thatte, and Kesavamurthy 8.

X-RAY. *Molecular structure. Crystal*. See 548.7

Raman 7.

SECTION 3

This is an Annual Classified Index to the Text. It gives the schedule of classes covered by the abstract. The names of the classes are given against their Class Numbers. In the case of

the Class Numbers under which reading materials, i.e., articles or books, occur in the text, the Serial Numbers which the entries have in the text are entered in black-face and as separate sentences.

5 PURE SCIENCE.

53 Physics.

535 OPTICS.

535.3 Propagation.

535.33 Emission spectra.

535.33.072 *Spectrograph*. 1.

535.338 Composition.

535.338.4 *Bands*. 2.

535.34 ABSORPTION SPECTRA.

535.343.2 Crystal.

535.343.2-15 *Diamond*. 3.

535.343.2-15:548 in relation to crystallography.

535.343.2-15:548.0 *General*. 4.

535.37 LUMINESCENCE.

535.375 Quantum theory of molecular scattering.

535.375 *Raman effect*. 5.

535.375.5:548 in relation to crystallography.

535.375.5:548.7 in relation to structure. 6.

54 Chemistry.

548 CRYSTALLOGRAPHY.

548.7 Molecular structure.

548.73 *X-Ray*. 7.

55 Geology.

551.5 METEOROLOGY.

551.508 Instrument.

551.508.1 *Upper-Air*. 8.

SECTION 4

Main Entries

5 PURE SCIENCE

53 Physics

535 Optics

535.3 PROPAGATION

535.33 Emission Spectra

535.33.072 *Spectrograph*

1 Von Keussler (V.). Über Angleichung der krummung von spektrallinien an eine Konstante Spaltkrümmung. (On the adjustment of the curvature of special lines to a constant slit curvature). (Z. astrophys. 24. 1948. 252-62).

"It is shown how a line of given curvature can be obtained by a suitable choice of slit curvature and geometrical conditions in prism and grating spectrometers."

535.338 Composition

535.338.4 Bands

2 Asundi (R.K.) and Venkateswarlu (P.). On continuous emission bands of ICI and IBR. (Indian jour. phys. 21. 1947. 76-82).

"A number of new continuous bands has been recorded in the spectra of the mixed halogens ICI and IBR excited by uncondensed discharge from a transformer. These are established by taking juxtaposed spectra of the halogens and the mixed halogens. A tentative explanation of the origin of the bands is given which ascribes them to transitions from stable electronic states to a number of repulsive states that arise from a combination of normal and $2P\frac{1}{2}$ excited states of the individual halogen atoms."

535.34 ABSORPTION SPECTRA

535.343.2 Crystal

535.343.2-15 Diamond

3 Ramanathan (K.G.). Infra-red absorption spectrum of diamond and its variations. (Proc. Ind. Acad. Sc. A.26. 1947. 469-78).

"The infra-red absorption spectra of 9 cleavage plates of diamond were investigated between 750 and 4000 cm^{-1} and the spectral behaviours elucidated. The 1st order spectrum shows large variations whilst the 2nd order spectrum is similar for all. Therefore, 1st order activity would appear to be attributable to the tetrahedral symmetry of structure rather than to chemical impurities or mosaicity."

535.343.2-15:548 In relation to crystallography

535.343.2-15:548.0 General

4 Raman (C.V.). Infra-red spectrum. (Cur. sc. 16. 1947. 359-66).

"The author briefly reviews the development of this subject, with special reference to his own theories on the vibration spectra of crystals."

535.37 LUMINESCENCE

535.375 Quantum Theory of Molecular Scattering

535.375.5 Raman Effect

5 Herzberg (Gerhard). Infra-red and Raman spectra of polyatomic molecules. (Molecular spectra and molecular structure, 2). (New York, D. Van Nostrand Company, Inc. 1950).

"Discusses . . . Raman Effect."

535.375.5:548 In relation to crystallography

535.375:548.7 In relation to structure

6 Krishnan (R.S.). Vibration spectra of the alkali halides. (Nature. 160. 1947. 711—12).

"Raman spectra of an NH_4Cl crystal recorded at progressively lower temperatures showed the appearance of several lines even above the so-called-point transition, and at liquid air temperature, sharp lines at 183 and 278 cm^{-1} frequency shift. The former corresponds to the "Reststrahlen" of the crystal, and is evidence for the oscillation of the NH_4 groups as a whole against the Cl being inactive as in the metallic halides, where the ion has octahedral symmetry."

54 Chemistry

548 CRYSTALLOGRAPHY

548 CRYSTALLOGRAPHY

548.73 X-Ray

7 Raman (C.V.). Dynamic X-Ray reflections in crystals. (Cur. sc. 17. 1948. 65-75).

"A short general account of the author's theories published in papers in *Proc. Indian Acad. Sci* (7 photographs, 3 figures)."

55 GEOLOGY

551.5 Meteorology

551.508 Instrument

551.508.1 Upper-Air

8 Venkiteshwaran (S.P.), Thatte (R.P.) and Keshavamurthy (A.). Fan-type raider meteorography of the India Meteorological Department. (Sc. not. Ind. Mat. Dep. 9. 1947. 127-59).

"The paper describes a simple inexpensive radiometeorograph in which the driving mechanism for making successive contacts of the pressure, dry bulb and wet bulb temperature pens is provided by a paper fan which rotates as the meteorograph is carried up by the balloon. The paper also describes the signaller, receiver and recorder and a receiving aerial with which signals can be received more satisfactorily at higher angles than with the usual vertical half-wave aerial. An inexpensive h.t. battery, that is assembled easily just before ascent, is described. The paper also gives the method of computation with the necessary tables."

AMENDMENTS TO *DICTIONARY CATALOGUE CODE*: TO SUIT DOCUMENTATION WORK

M. L. NAGAR and K. D. PURANIK

[Enumerates the amendments to be made in the *Dictionary catalogue code* to adopt for entries in abstracting periodicals].

0 Introduction

Cataloguing of micro-units of thought like articles in periodicals, so dominant in documentation work, differs in some respects from cataloguing of macro-units of thought like books. To be applicable to documentation work, the *Dcc*, originally designed for macro-units, therefore, requires the following amendments. The numbers of the rules are those given in the *Dcc* (1945).

01 GENERAL AMENDMENT

Wherever "book" occurs, replace it by "documented material".

1 Main Entry

11 AMENDMENTS TO RULE 1

1 Insert "Serial Number" as category 1 and renumber the existing categories. The main entries occurring in each volume are to be given serial numbers beginning with 1.

2 Delete "4 Call Number"

The presumption is that a dictionary arrangement of a Documentation List does not use any class number at all to denote entries.

3 Delete "5 Accession Number".

This is necessary as there can be no Accession Number for any article in periodical. Even if the item documented is a whole book there can be no Accession Number as a Documentation List is independent of any individual library whose collection alone can have Accession Numbers.

4 Add "4 Occurrence note; and

"5 Abstract"

"in the case of micro-units which form parts of other publications; or

4 Collation and Imprint, and

5 Annotation wherever necessary

"in the case of independent publications".

In a documentation list, an entry should show where the documented material occurs, if it is not an independent publication.

In the case of independent publications, collation etc. which may be omitted in a library catalogue, should necessarily be given in a documentation list which has no reference to any particular library collection.

12 AMENDMENT TO RULE 11

1 In categories 2, 4, 5 and 7 delete "two".

It is desirable that the names of all joint authors should be featured in a documentation list, as readers are likely to make approach through the name of any one of the authors known to them.

13 AMENDMENT TO RULE 112

1 Delete all the words after the first "two" and insert in their place "or more joint personal authors, all the names are to be used as the Heading with the necessary punctuation marks and the conjunction "and" in appropriate places."

2 Delete Rule 1122.

These are consequences of the amendment in section 12.

14 AMENDMENTS TO RULE 11522

1 Insert "or more" between "two" and "joint".

2 Replace "both" by "all".

3 Replace "which are to be connected by the word and" by "inserting commas and "and" at appropriate places.

4 Delete Rule 11523.

This is to secure consistency with the amendments in section 12.

15 NEW RULE AFTER RULE 1213

1 Add the following Rule after 1213.

"1214 If the title is in a language other than the favoured language or the languages prescribed for the purpose, insert after the title-portion the translation of the title into the favoured language as a separate sentence and enclose it in square brackets.

It is believed that this will be helpful to readers who are not familiar with the language of the original.

16 AMENDMENTS TO RULE 14

1 Replace Rule 14 by the following:—

"14 Occurrence Note.

"14 An Occurrence Note is to be enclosed in square brackets.

"141 If the Occurrence is in periodical publication, the Occurrence Note is to consist successively of

1 the title of the periodical publication in standard abbreviated form;

- 2 a full stop;
- 3 the number of the volume, if any;
- 4 a full stop, in case category 3 is used;
- 5 the year of the volume;
- 6 a full stop, and
- 7 the pages of occurrence in inclusive notation.

"142 If the occurrence is in a book, the occurrence note is to be written on the analogy of Rule 13312.

17 AMENDMENTS TO RULE 15

- 1 Replace Rule 15 by the following

"15 Abstract

"15 The abstract is to be written in a style subordinated to that of the rest of the entry.

"151 The abstract is to be given in the favoured language or languages, as prescribed.

"152 The abstract is to be taken from the abstractor."

2 Added Entries

21 AMENDMENTS TO RULE 21

- 1 Delete all the words beginning with "and" in category 1 and add the following categories.

"2 the directing word "See".

"3 the Headings of the concerned Main Entries in alphabetical order."

- 2 Delete Rules 212, 213 and 214.

22 AMENDMENTS TO RULE 3

- 1 Delete all the words beginning with "and" and add the following categories.

"2 the directing word "See";

"3 the Headings of the concerned Main Entries in alphabetical order."

- 2 Delete Rule 301.

23 AMENDMENT TO RULE 31

In category 1 replace the words "second author or collaborator" by the words "each of the joint authors or collaborators".

91 Volume Index

Add the following Rules:—

Chapter 91.

Volume Index.

91 Each volume of a Documentation Periodical is to be provided with a Volume Index.

911 A Volume Index is to give in one alphabetical sequence, the names of

1 Each author with the proviso that in the case of joint authors, the words *jt. auth.* will be added.

2 Each collaborator, if any, with proviso similar to that in 1.

3 Each Series.

4 Each Specific subject.

912 The Index Number against each item is to be the number of the issue.

ABSTRACTING PROBLEMS

DHANPAT RAI

[The factors arising in abstracting service *vis.* availability of the materials to be abstracted, promptness of publication and the quality of abstracts are discussed. Giving author-written abstracts and providing preliminary training in abstracting to all authors are advocated. The help which can be given by editors of learned periodicals is indicated.]

0 Introduction

Service to the scientist is the primary object of documentation. Abstracting is a link in the chain of communication of recorded materials.

01 PURPOSE AND NEED

The scientist needs adequate abstracts primarily:

- (1) to keep himself up with current information on the umbra and penumbra of his subject; and
- (2) to search for old information.

The librarian needs them:

- (1) to locate references and answer queries relating to specific subjects or authors;
- (2) to compile bibliographies; and
- (3) to acquire new reading materials for the library.

02 PROBLEMS OF AN ABSTRACTING SERVICE

The value of an abstracting service is to be judged by the extent to which these purposes are served. The features which an abstracting service should have are:—

- 1 Comprehensiveness of coverage;
- 2 Promptness of release;
- 3 Good quality of the abstracts; and
- 4 Adequacy of author and subject indexes.

1 Comprehensiveness of Coverage

This feature is given first place of importance by scientists who have to concentrate on a specific subject of small extension.

Accordingly during the last five years there has been a considerable increase in the number of items abstracted by abstracting services like *Science abstracts A & B*, *Chemical abstracts*, *Biological abstracts*, and *Nuclear science abstracts*. Some of these have nearly doubled their size. Further to meet the needs of specialists, subjects either not covered or inadequately covered hitherto like Meteorology, Oceanography, Geophysics, Geology and Soil Mechanics are now provided with abstracting services. *Meteorological abstracts and bibliography* and *Applied mechanics reviews* are examples. This is really encouraging.

11 MILITATING FACTORS

But the following factors militate against adequacy of service.

- (1) the ever-increasing down-pour of scientific papers all over the world;
- (2) the complexity of subjects in Natural Sciences resulting in excessive overlapping;
- (3) the task of spotting out and scanning new and obscure periodicals hard to get;
- (4) the task of abstracting and indexing such a voluminous literature;
- (5) translating from scores of languages; and finally,
- (6) the huge finance required for the work.

12 SOURCE FOR FINANCE

Some of the progressive abstracting services like *Chemical abstracts* already face serious financial problems owing to increase in the quantity of the materials to be abstracted. In fact, everything ultimately turns on finance. Either the sale-price must be increased or finance must be found at government level.

13 OVERLAPPING

It is often pointed out by critics that there is unnecessary overlapping. But it appears to be inevitable in view of the inter-crossing of the boundaries of subjects. Moreover some over-lapping, as distinct from duplication, in abstracting services is desirable when they cater for scientists having different interests.

2 Promptness of Publication

The time-lag between the appearance of a paper in a periodical or a technical report and its accessibility in the form of abstract, which is, at present of the order of nine months to two years, is discomfoting and leads to waste of the time and energy of scientists caused by unnecessary duplication of effort. The

problem is quite intricate and thorny, as promptness in the publication of abstracts is dependent on three factors:

1. Availability of the material to be abstracted;
2. Abstractor—whether it is the author himself or a specialist in abstracting work;
3. Printing facilities; and
4. Distributing facilities.

21 AVAILABILITY

As regards availability of the material to be abstracted, there is not much difficulty to ensure prompt and regular supply from all the countries of the world *except* perhaps Russia and its associated countries who do not at present appear to like sending out their periodical publications. There is however room for improvement. Much can be gained by exchange relation between abstracting agencies on the one hand and publishers, institutions, societies, research organisations both Government and private, etc., who are responsible for the production of material, on the other. In this way, both the parties will be benefited.

22 ABTRACTOR

To get abstracting done by a professional abstractor should obviously involve some time-lag. To get it done by the authors themselves will eliminate this time-lag.

23 PRINTING

The existing abstracting agencies have adequate printing facilities.

24 DISTRIBUTION

There is little to improve upon the existing methods of prompt distribution of abstracts. Perhaps, there will be improvement if distribution is made by air-mail. This is a matter of finance.

3 Quality

On the quality of the abstracts depends the quality of service, as it is the kernel of the fruit of documentation and source of nutrition for healthy growth of science and industry. In them stand stored the knowledge of the researches of the past, and into them have come daily the new discoveries and new knowledge on which scientists could build. That is why the consensus of opinion among the scientists is in favour of factual abstracts rather than indicative, although it is admitted that no scientist will accept the facts, data and conclusions given in the abstracts without referring to original papers. Opinion appears to be sharply divided among scientists as to whether reliability inheres

in abstracts more if the 'informative' abstracts are author-written or if written by professional abstractors.

31 SPECIALIST-WRITTEN ABSTRACTS

The obvious advantages of specialist-written abstracts, in spite of increase of cost and delay, are authoritativeness, reliability and technical expertness, which are essential features of factual abstracts.

32 AUTHOR-WRITTEN ABSTRACTS

But author-written abstracts can also conserve these essential qualities. The commonly cited shortcomings of author-abstracts are lack of objectivity, perspective, ability to judge significance and abstracting skill. But these shortcomings can be minimised by proper planning, co-ordination, co-operation, setting up of abstracting standards and some training in abstracting being given to authors.

4 Indexes

Papers 253, 254 and 255 deal with index-aids required to make abstracting periodicals give the best service, the lay-out of abstracting periodicals including that of index-aids and the rules for constructing entries.

5 Editorial Responsibility

In the case of all learned periodicals it should be part of editorial responsibility to ensure that all papers submitted by authors for publication be accompanied by abstracts. Editors should take the same degree of responsibility for the quality of the abstract as they take for the quality of the original paper itself. They can help in the elimination of time-lag by sending preprints or proof-copies of author-written abstracts to the abstracting periodicals.

INTERNATIONAL CO-OPERATION IN
DOCUMENTATION WORK

India's Share

DR. S. R. RANGANATHAN

[Examines the form which International Co-operation can take in the documentation of macro-units and micro-units of thought respectively. Suggests experimentation in the technique needed for *World subject bibliography* and the opportunity which the proposed *Indian subject bibliography* presents for experimentation.]

0 Assumptions

It is assumed that the number of entries, the scatter of the subject-interests to be served, and the size of the staff to be organized, would make *World documentation list*—i.e. bibliography of world-output of advanced nascent thought unwieldy, distracting and difficult to produce with sufficient frequency, if it were to cover all the regions of the field of knowledge. Any amount of international co-operation cannot save it from this predicament in spite of virtual annihilation of time and space by modern means of communication, and even assuming permanent prevalence of amity among nations. We shall therefore, consider whether international co-operation can help world-documentation either:

1. if documentation is restricted only to macro-units of thought—i.e. books and pamphlets—in the entire field of knowledge; or
2. if documentation is restricted only to one subject or to one group of related subjects but covering both macro- and micro-units of thought.

01 MACRO-UNITS OF THOUGHT

The difficulties mentioned in section 0 will persist even if we restrict the *World documentation list* to macro-units of thought. It is assumed that the users, whose interests do not go beyond macro-units of thought and do not reach micro-units, are not likely to have the urge to know the output of thought in all the countries—i.e. in all the languages of the world. This questions the utility of a *World documentation list* even of macro-units of thought against the background of organisational difficulty and

cost. It is however worth investigating whether international co-operation is possible in regard to macro-units of thought in ways other than the production of a *World documentation list*.

02 MICRO-UNITS OF THOUGHT

It is assumed that the users, whose interests make them search for expressed micro-units of thought, will have the curiosity and the need to know every item of nascent thought in their region of interest and will also have the stamina to overcome linguistic hurdles in reaching it. It is therefore desirable that there should be a *World documentation list* in each of the areas of knowledge which can be specified in the light of demand—actual or anticipated.

1 Omnibus Bibliographies

11 INTERNATIONAL CO-OPERATION

A good approximation to an omnibus *World bibliography* of books, pamphlets and whole periodicals is an aggregate of omnibus national bibliographies of these materials. To make this aggregate exhaustive, international co-operation is needed and is secured by each nation producing its own *National bibliography* and making it available for purchase and exchange. India's share in this international endeavour is to bring out the *Indian national bibliography* (=I.N.B.) along the lines outlined in paper 241.

2 Subject Bibliographies

Documentation lists of all worthwhile materials, micro in extent—i.e. articles in periodicals—confined to a single region of the field of knowledge can and should be produced. The production of this may either become:

1. the responsibility of a World-Organisation; or be left to
2. International co-operation.

21 WORLD-ORGANISATION

The only World-Organisation of to-day whose policy or function can include production of subject bibliographies is Unesco. It can do the work through a Department of its own or it can encourage some existing international organisation to do it—say the Ifla or the F.I.D. But it is a matter of common experience that no such voluntary international body can command the necessary material and human resources to do the work. The work requires a permanent full-timed staff and an assured recurring budget, as it is colossal in size and is not one that can end at any time. Unesco is the only body that can ensure these. The only solution therefore appears to be that the agency should be a creature of Unesco and be either a part of its

organisation or an autonomous specialised agency with some broad defined responsibilities to Unesco in return for financial provision.

211 AN ANALOGY

It must be remembered here that the finance for the World-Organisation should come ultimately from the member-nations who are in fact the only tax-payers to U.N. and its specialised agencies including Unesco. But this tax-pattern has not yet been stabilised. It may not be stabilised for a long time. Here an analogy of the older village-system suggests itself. To celebrate the annual festivals in a village, in most villages each family takes up the sole responsibility for a particular festival according to its capacity and interest; while in a few villages, the festivals are celebrated from the proceeds of a general tax collected from all. The former has certain advantages. There is personal interest; there is emulation; it often becomes a matter of personal prestige to make one's festival-day as grand as possible, so long as family interest or faith in it is alive and does not wane. When family's direct interest wanes, the impersonal tax-method establishes itself on a statutory basis, if it is a social necessity. Generally speaking, many activities now financed by taxes had first gone through the stage of voluntary co-operation. I feel that documentation is still in that stage at the world-level.

22 INTERNATIONAL CO-OPERATION

It is, therefore, likely that a way in which Unesco can, at present, promote subject-bibliography on world basis is to persuade the member-nations to share the subjects on a voluntary basis and for each nation to take the responsibility—financial and man-power—for the world-bibliography on the subject or subjects falling to its care. India's share in this international endeavour is to bring out regularly the periodical issues of the *World subject bibliography* in each of the subjects accepted by it. No doubt it will have to depend on other countries for aid in languages which are not known to its own bibliographers, in return for similar aid given to other countries in regard to Indian languages. There should be similar reciprocal arrangement between each foreign country and India in regard to foreign periodicals and books not taken in India in the chosen subjects and the Indian periodicals and books not taken in the foreign countries in their chosen subjects, though it is desirable that the occasion for this should be minimised and each country should make an exhaustive collection of world-output in its chosen subjects.

3 National Agency

It is but appropriate that India should entrust its share in the maintenance of *World subject bibliography* to the very same

agency which prepares the I.N.B. This agency will have to be ultimately a part of the National Central Library. But till it is established, this work may be difficult. However, if the organisation being promoted by the Ministry of Scientific Research with the help of Unesco and the Indian Library Association to produce the *Indian subject bibliography* becomes a reality, it can become the agency for the *World subject bibliography* in the subjects falling to the share of India.

4 Choice of Subjects

The choice of subjects for whose *World subject bibliography* India can take responsibility is difficult at present. Unlike the developed countries, India is not now systematically bringing out a *World subject bibliography* in any subject whatever. Except for a few isolated individuals, who have begun to make a mark in some subjects during the last half a century, no recognisable school of research has yet established itself firmly in Indian soil. It is more contingent on a single person or two than in developed countries. The prevalence in several universities of attitudes and scale of values that are more appropriate to business-houses, and the absence of the spirit of discovery and research in the industrial circles—both inheritances of the last few centuries of decadence and dependence—may account for this. It should be the fervent prayer, hope and endeavour of every true citizen of India to outgrow this state of inanity. When healthy research is established, India's choice of subjects will not be difficult.

There is no probability for the entire field of knowledge to be distributed among the developed nations in the immediate future. However, the earlier the Indian mind develops its own preferences, the greater will be the chance to get subjects in which it has special facilities. For, a violent redistribution of subjects among the nations cannot be made and altered at too frequent intervals.

5 Technique

The technique of preparing *World subject bibliography* has not yet taken a definite shape. This has been partly due to the fact that its production has been mostly in the hands of specialists in other subjects, rather than of those in library science. So long as the practice of midwifery was confined to old mothers, though babies were often helped out with success, midwifery did not establish itself on firm foundations of objective knowledge. So it has been with Documentation. Documentation work is, therefore, a field in which India need not feel handicapped on account of her long sleep. The entire technique of documentation work—be it classification, abstracting or cataloguing—is yet to take shape. India's co-operation and contribution is, therefore, possi-

ble almost on a basis of equality and can be of value in forging these techniques.

51 CLASSIFICATION

As stated in paper 251 a mood of despair appears to be overtaking some of the developed countries, almost to the point of abandoning classification. India has been the first nation to demonstrate the possibilities of bypassing some of the difficulties, which cause this pathetic mood, by the invention of an analytico-synthetic classification *ab initio*. The investigation in progress on *Optional facets* is really turned on the depth-classification needed for documentation work. If India can intensively dive into classificatory pursuits like this, it may get a chance to play a useful role in international co-operation.

52 ABSTRACTING

India has not yet made any serious study of the problems in abstracting. If the organisation for *Indian subject bibliography* is set up, and if it does not blindly imitate or reproduce the techniques of developed countries, India will get still another chance to make its international co-operation valuable to the world.

53 CATALOGUING

It is now known that the *Classified catalogue code* is the only known, complete, rigorous code of its kind. Paper 254 explores the additions necessary to adapt it to the needs of documentation. In a similar way, the *Dictionary catalogue code* is a far more self-contained and rigorous code of its kind than any others. Paper 255 explores the additions necessary to adapt it to documentation. Both these codes are of Indian origin. If India's new generation of librarians will keep them ever on watch and go on improving it, India's co-operation will be of considerable value.

6 Technique of Mutual Help

Nobody has had experience in how two countries can help one another with their respective documentation slips with the least cost and in the least time. Nor has experience been gained in what form the final documentation list should be sent from one country to another or how the language hurdle can be overcome or how the terminology used in class index or subject headings should be made to conform to the Canon of Currency. Some conjectures have been made on these unsolved problems in my *Classification and international documentation* published as fasc. 4 of V.14 (1947) of the *Review of documentation* of the F.I.D. India should extend its co-operation to the international enterprise in Subject Bibliographies by continued experiments.

7 Service to Foreign Countries

We have had no experience worth mentioning in service to users in foreign countries. It will take time to build up the necessary experience, make the necessary experiments and improvements in mechanical aids for search and duplication. All this will be possible only after the organisation for the *Indian subject bibliography* is set up and is made to function for some years. May God grant its early establishment, steady development and smooth merging into the future National Central Library!

3 WHO'S WHO IN THE SYMPOSIA

1. CHATTERJI (Nisha Nath). *b.* Allahabad. 19 February 1912. B.Sc. (Allahabad). Member, Indian Library Association and Government of India Library Association. Diploma in Librarianship (Imperial Library, Calcutta). Assistant Librarian, Indian Agricultural Research Institute, New Delhi. 1944-50. Officiating Librarian, Indian Agricultural Research Institute, New Delhi. 15 November 1950.—Unesco Fellow undergoing training in Classification of Scientific Literature in England.

2. DHANPAT RAI. *b.* 13 March 1914. B.A. (Punjab). Member, Indian Library Association. Diploma in Librarianship (Imperial Library, Calcutta). Assistant Librarian, Ministry of Defence Library, New Delhi. 1943. Senior Scientific Assistant, Ministry of Defence. New Delhi. 1945. Librarian, Ministry of Agriculture. New Delhi. 1946. Assistant Librarian and Librarian I.C.A.R., New Delhi. 1947-49. Technical Librarian, Defence Service Organisation, New Delhi. April 1949.

3. GULATI (Girdhari Lal). *b.* Lyallpur. 5 April 1914. B.A. (Honours). (Punjab). Member, Indian Library Association. Secretary, Indian Standards Institution Sectional Committee on Documentation. Diploma in Library Science (Punjab). Assistant Librarian, Dyal Singh Public Library, Lahore 1936-42; Asst. Librarian, C.B.I. Library, Govt. of India 1942-44. Librarian and Reference Assistant, Famine Inquiry Commission, Govt. of India, 1944-45. Senior Technical Assistant, Imperial Secretariat Library, Govt. of India 1945-47. Librarian, Indian Standards Institution 1947-. Number of papers published 2.

4. KAULA (Prithvi Nath). *b.* Srinagar. 13 March 1924. B.A. (Punjab). Member of the Council, Indian Library Association. B. Lib. Sc. (Delhi). Library Assistant, Delhi University Library 1947-50; Librarian Delhi College 1950. Number of Books published 2. Number of papers published 126. Joint author of *Union catalogue of periodical publications in the libraries of South Asia*.

5. KORANNE (Trimbak Narayan). *b.* Lashkar (Gwalior). 21 June 1922. B.Sc. (Agra). B. Lib. Sc. (Delhi). Member, Indian Library Association. Library Assistant, Delhi University Library 1949. Number of papers published 4. Joint author of *Union catalogue of periodical publications in the libraries of South Asia*.

6. KRISHNA RAO (D. B.). *b.* Tiruppur. 7 June 1915. M.A., M.Sc. (Madras). Diploma in Library Science (Madras). Member, Indian Library Association. Librarian, Agricultural Research

WHO'S WHO

Institute Library, Coimbatore 1941-50. Librarian, Indian Council of Agricultural Research, New Delhi. 1950. Number of papers published 4.

7. MAGNANAND. *b.* Meerut (U.P.) 6 December 1915. M.A. Diploma in Library Science (Imperial Library, Calcutta). Member of Council, Indian Library Association. Jt. Secretary, Government of India Libraries Association. Librarian (Hony.) Lyall Public Library, Meerut 1936-37. Librarian, Directorate-General of Health Services, Government of India, 1940. Number of papers published 4.

8. MUKHERJI (Jagannath). *b.* Calcutta. 17 July 1917. M.A. (Calcutta). Diploma in Library Science (Imperial Library, Calcutta). Member, Indian Library Association and Government of India Libraries Association. Librarian, Office of the Economic Adviser to the Govt. of India 1947.

9. MUKHERJI (Mohit Kumar). 22 January 1928. B.Sc. (Delhi), Diploma in Library Science (Delhi). Member, Indian Library Association. Student for the Master's Degree in Library Science (Delhi). Junior Library Assistant, Delhi University Library for 3 months in 1950. Number of papers published 1.

10. NAGAR (Murari Lal). *b.* Banaras. 20 March 1917. Sahityacharya (Banaras) M.A. (Agra). Diploma in Library Science (Banaras). Working for Ph.D. in Library Science (Delhi). Member, Indian Library Association. Teacher, Department of Education, Uttar Pradesh 1942-1947. Senior Library Assistant and Lecturer in Library Science, Delhi University 1947. Joint Editor of *Abgila*. Number of books translated into Hindi 1 and edited and commented 1. Number of papers published 10.

11. PARKHI (Raghunath Shatanand). *b.* Bhor (Dist. Poona). 17 March 1901. Certificate in Library Science (Madras). Certificate of Proficiency in Classification and Cataloguing (by correspondence) (Columbia University). Vice-President, Indian Library Association, Vice-President, Maharashtra Library Association, Corresponding Member, Library Association, London. Librarian, Bai Jerbai Wadia Library, Fergusson College, Poona 1922. Organiser of Rajasthan University Library. Number of books published 4. Number of papers published about 50.

12. PHADNIS (Shripad Prahlad). *b.* Jalgaon. 4 April 1921. B.Sc. (Bombay). Diploma in Library Science (Bombay and Delhi). Member, Indian Library Association. Student for the Master's Degree in Library Science (Delhi). Librarian-designate, Ahmedabad Textile Industry's Research Association. Number of papers published 5.

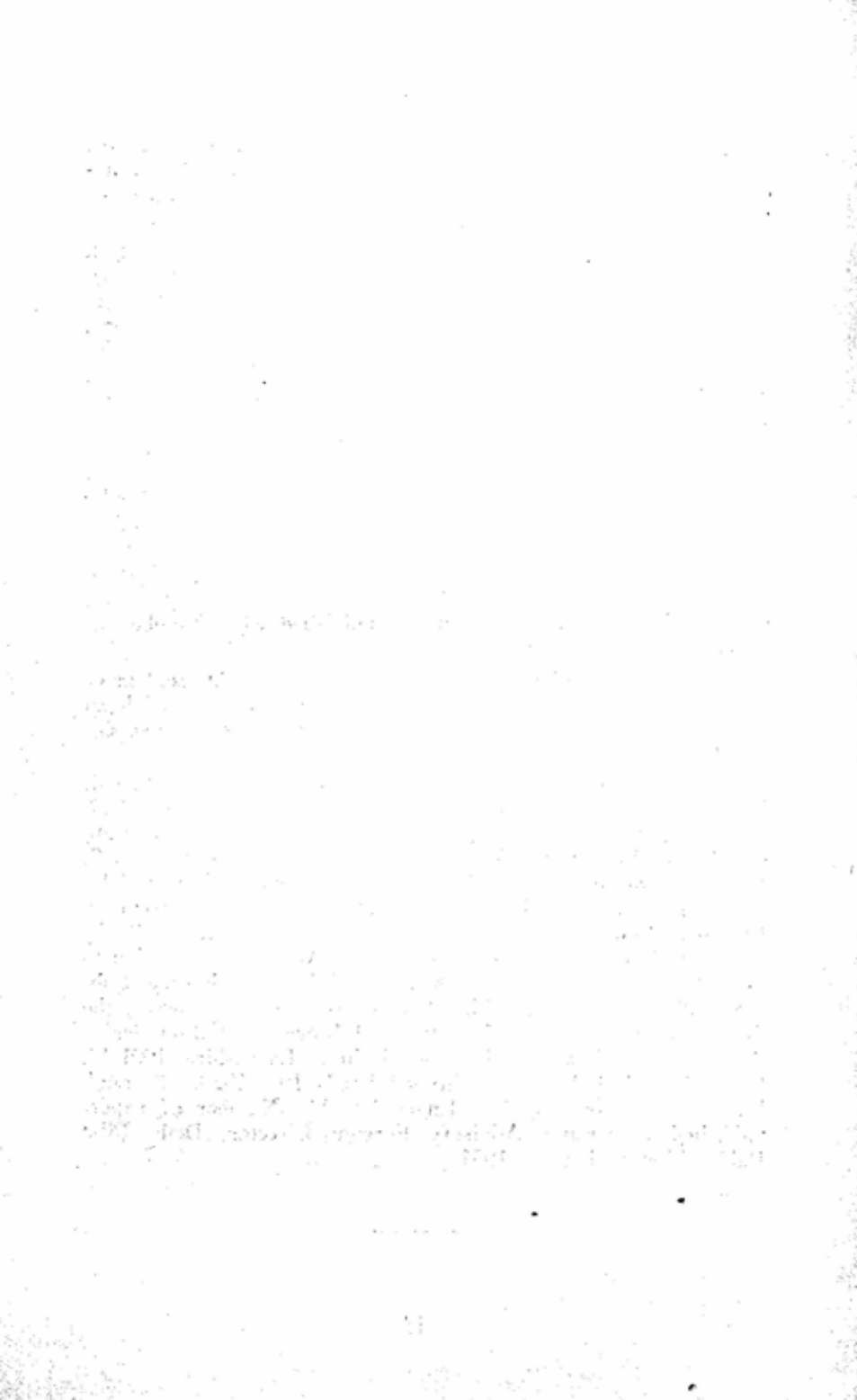
13. PURANIK (Krishnaji Dhattatraya). *b.* Pali. 20 August 1922. M.A. (Bombay). Diploma in Library Science (Delhi Univer-

sity). Member, Indian Library Association. Student for the Master's Degree in Library Science (Delhi University). Librarian-designate of the Delhi School of Economics Library. Number of papers published 1.

14. RANGANATHAN (Shiyali Ramamrita). *b.* Shiyali. 12 August 1892. M.A. (Madras). D.Litt. (Delhi). L.T. (Madras), F.L.A. Honours Certificate, School of Librarianship. University of London. Fellow, British Library Association. Secretary, Madras Library Association. President, Indian Library Association. General Secretary, Indian Adult Education Association. Member, Government of India Social Education Committee and Delhi Adult Education Committee. Librarian, Madras University Library 1924-45. Librarian and Professor of Library Science, Banaras Hindu University, August 1945—June 1947. Teacher of Library Science, University of Delhi, June 1947. Faculty Member, Unesco International Library School (1948). Member, International Committee of Library Experts, United Nations (1948). Member, National Library Committee (Calcutta). Member, Unesco's International Committee of Bibliographical experts, 1951. Number of books published 31. Number of papers published about 800.

15. SAXENA (Radhey Shyam). *b.* Lucknow. 20 September 1927. B.Sc., LL.B., (Lucknow). Student in the Diploma Course in Library Science. (Delhi). Library Assistant, Legislative Library, Lucknow, 1947-50.

16. SYDNEY (Edward). *b.* Bolton. 27 April 1892. British Library Association, Chairman, Executive Committee 1949. Chairman, Postwar Planning Committee 1943-4. British Institute of Adult Education, Member, Executive Committee 1947. Workers' Educational Association, Central Council, Member 1946. National Book Council and National Book League, Member, Executive Committee 1938-48. British Council, Member, Books and Publishing Committee 1948. British Army, Member Education Advisory Board and Chairman, Library Advisory Subcommittee. English Speaking Union, Member, Books across the Sea Committee. Fellow of the British Library Association. Senior Assistant and Branch Librarian, Bolton, Lancashire 1901-14. Chief Technical Assistant, City of Leeds 1914-1928. Borough Librarian, Leyton, London, England 1928. Number of papers published numerous. Advisory Foreign Director, Delhi Pilot Public Library Project 1951.



Index

The reference is to the number of the paper and the number of the section within it. *Example*: 251:32 means Section 32, of Paper 251.

i.r.t. = in relation to.

q.i.r.t. = quoted in relation to.

r.i.r.t. = referred in relation to.

- Abandonment of classification 251:31.
- Abbreviation 231:14.
- Abgila* 251:22.
- Abstracting *i.r.t.*
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