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This examination of library services to business, commerce and industry in California was based on conferences with State Library personnel, discussions with librarians from five major resource libraries, and a study of library resources and needs in nine California cities which included visits to the public libraries and interviews with public and special librarians and patrons from business and industry. The report covers: (1) information needs of business and industry, (2) selection and reference aids in business, technology and science, (3) characteristics and problems of service, (4) foreign language materials, (5) present public, academic and special resources, (6) excerpts and summaries from relevant literature, and (7) conclusions and recommendations for a statewide technical information network. It was found that publicly supported libraries cannot adequately meet the technical information needs of California business and industry which are not served elsewhere. Recommendations for a statewide technical information network suggest three levels of service: local service-contact libraries, subject centers, and research centers which would involve contractual arrangements with major academic libraries. The California State Library should be responsible for coordinating, developing and studying services for the entire network as well as serving as a major special resource center. A bibliography of 32 items is appended. (JB)

TECHNICAL INFORMATION *for* CALIFORNIA BUSINESS AND INDUSTRY

A REPORT TO THE CALIFORNIA STATE LIBRARIAN

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GEORGE S. BONN

Technical Information for California Business and Industry

A Report to the California State Librarian

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Sacramento, California
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Purpose and Procedures

This is the report on a study of library services to business, commerce, and industry in California in the subject fields of science and technology broadly defined, made under the provisions of the federal State Technical Services Act of 1965 (Public Law 89-182), and sponsored by the California State Library. The study was made within the framework of the Martin report, Public Library Service Equal to the Challenge of California (June 30, 1965).

After a number of conferences with key librarians in the California State Library and an informative introduction to its facilities and services, I set out on a two-week circuit of nine California cities to get first-hand reports on information needs of business and industry and on library resources available to serve them: Sacramento, Stockton, Fresno, Los Angeles, Santa Monica, San Diego, San Jose, San Francisco, and Oakland.

During these two weeks (October 10-24), I visited 12 public libraries (one by telephone) and one public patent library and talked with 36 librarians. I met with some 45 outsiders (i.e., the public) either in their offices (13, three by telephone) or in the libraries one by one (12) or in a group (20); these included three from chambers of commerce, four from management (marketing or industrial relations), six consulting or laboratory scientists and engineers, two inventors, an agricultural county agent, a TV quiz-show producer, a free-lance market researcher, a municipal industrial development specialist, a director of a Spanish-speaking information center, and 25 special librarians and industrial

information specialists from a variety of industries, businesses, and utility companies.

In addition I talked with by telephone or met with 10 librarians (and an institute vice-president) in five non-public libraries which seemed to be most often mentioned as resource libraries by both public librarians and outsiders: California Institute of Technology, Mechanics' Institute, Stanford University, and University of California at Berkeley and at Los Angeles. Besides these person-to-person meetings, I also had the pleasure of speaking before the San Francisco Chapter of the Special Libraries Association to tell them what I was doing and to solicit their interest and help.

My reception was indeed cordial, plans had been well laid, and discussions were sincere, open, and truly professional wherever I went. Unfortunately, the weather prevented a planned visit to Eureka and a scheduled meeting with the Los Angeles Chapter of the Special Libraries Association, and time and plane schedules prevented longer or additional library visits.

I must say that there was remarkable agreement about the kinds of information that business and industry need and about the capability of public libraries to serve them, on the part of both the outsiders and the librarians with whom I conferred. The agreement made the writing of this report that much easier. I only wish I could report more satisfaction with results on the part of both the outsiders and the librarians; but judging from a careful reading of the literature of the past two decades, service to business and industry never really <u>has</u> been satisfactory either to outsiders or to librarians.

I cannot help but feel that much of this chronic non-satisfaction with public library service to persons with technical information needs stems from the non-certainty on the part of both outsiders and librarians that the public library ought to be giving such service in the first place. In my view, it comes to this: the public library will have to decide whether or not it is going to serve the reading, reference, and research needs of business and industry and of scientists and engineers who are not served by other special collections. If it is, then it must get on with the service. If it is not, then some other agency will have to.

The report that follows is divided into seven sections: (1) Information Needs of Business and Industry, wherein I list all the kinds of information that the librarians and patrons I talked with considered important; (2) Meeting the Information Needs of Business and Industry, in which I describe selection and reference aids for business (including government publications), for technology (including government research reports), and for science, and note the importance of community analysis; (3) Patterns of Service, Characteristics, Catches, and Rubs, i.e., service to business and industry problems and difficulties; (4) Materials in Foreign Language, about the possible Spanish-language problem; (5) Present Resources and Services, public, academic, and special; (6) Excerpts and Summaries: A Pertinent Literature Interlude (and a short bibliography), all related to this report; and (7) A Technical Information Network for California, the essence of the report. I purposely did not spell out the precise content of the recommended core collections for the information network because I honestly felt that the business-industry-science-technology librarians in California public libraries should decide

themselves what the content of these collections should be.

The report is based on the honest beliefs and professional opinions of the hundred librarians and non-librarians I talked with during the two weeks I was in California this past October. The interpretation and assessment is my own; I trust it is a reasonable one.

I deeply appreciate the attention, courtesy, and help I received from all those I talked with in connection with this report, and particularly from those in the California State Library who, in addition, made the visits possible and worth while wherever I went.

George S. Bonn
Honolulu, Hawaii
December 1966

1. Information Needs of Business and Industry

One of the purposes of my visiting a number of public libraries in different parts of the state was to get on-the-spot reports on the kinds of information business and industry want as identified by reference librarians who regularly serve business and industry and by people connected in some way with business and industry who may or may not be regular library users.

While I was able to interview only a hundred or so people during those two weeks, I was pleased to discover as I went along that the information needs identified and stressed in the different areas by different spokesmen were remarkably alike, at least by kind if not by exact subject or title.

Here is what I found:

A. Economic statistics. These should be both current and retrospective, and should cover municipalities, counties, regions, and the whole state. Specific requests included:

1. Cost of living for all cities, based on standardized measurements
2. Comparative studies (housing, e.g.) for all cities
3. Commodities: prices, production, movement (local)
4. Imports: by port, region, country of origin; by port of receipt and destination
5. Exports: by state, area, port of shipment; by port of receipt and destination
6. World trade: market surveys, industry surveys, economic surveys, by country

7. Overseas products: reports, surveys, by country, by product

8. Markets: product surveys including end use

9. "Data bank" or one-volume compilation of essential community economic conditions from various local sources as required, by city, county, state, country

10. List of available sources of data and services from which to compile special reports (e.g., on commodities) as desired, including information on unpublished reports and data and access to them

B. Directories. These should be up-to-date and kept that way.

Examples:

1. City. State. Telephone numbers. Officials: city, county, state, U.S.

2. Distributors. Buyers guides. Wholesale outlets. Retail outlets. Purchasing agents. Manufacturing agents. Importers. Exporters. Each by city, state, country, and product or commodity

3. Complete register of industry and business in the area. If an industry or a company is not listed in available directories the implication may be that the company is not a good one or is too new or is too secretive.

4. Specific information about local industry and business in more detail than in, e.g., Contacts Influential (Contacts Influential International, 809 P St., Lincoln, Nebraska 68508) which lists key men, titles, kinds of business, and size. Need some historical data (including financial) and operational information (including employment requirements, for persons who may

want to apply for jobs)

5. Local offices and distributors of larger national organizations
6. New businesses and industries, based on official records (city, county, state), to update published directories
7. Small companies (below 25 employees, e.g.) to complement such works as the Directory of Large Manufacturers San Francisco Bay Area (San Francisco Chamber of Commerce, 1964-1965) which covers 13 counties and industries of 25 or more employees each; by city, county, state.
8. Worldwide industry and business, including foreign branches of U.S. firms, affiliates, distributors, etc.
9. Research: who is doing what, where, now; by company, laboratory, scientists; by city, state, U.S. Also research centers: location, operation, personnel, employment requirements, areas of research interest
10. Foreign journals: by country, subject, circulation, advertising rates; a kind of Standard Rate and Data Service for each country

C. Other local information. City, county, state. Examples:

1. More accurate information on subject strengths of libraries in the state (and elsewhere, for that matter)
2. Accurate, up-to-date, comprehensive union lists of serials (but perhaps of uncommon rather than of most common titles??)
3. Local history: including industry, manufacturing, business, individual companies
4. Specific company information: about any important company but especially about local-head-office companies; including reports, annual reports, other publications, public statements, subsidiaries, branches, offices, finances, organization chart

(with names), history, "what company is doing and saying"; should keep backfiles

5. Planning and development reports and surveys

D. Government publications. Other than statistical. Examples:

1. U.S. Senate/House committee hearings
2. Laws, regulations, tariffs: new legislation as well as older works and codes; municipal, county, state, U.S., selected foreign countries; bring out legal aspects of going into business, of doing business (including import/export), of going into bankruptcy
3. Reports of departments and agencies: municipal, county, state, U.S., U.N., selected foreign countries; directories; organization manuals
4. General business information: "how to" set up business, keep books, supervise, sell to government, etc.; all U.S. Small Business Administration publications, e.g.
5. Indexes to, and lists of recently published material from state agencies (speedy distribution essential); need better indexes in and to all government publications (state, U.S., U.N.)
6. Local sales agency and distribution center for state documents and U.S. documents (not otherwise handled locally; SBA material is, Department of Commerce material is, e.g.); for business, industry, et al
7. Periodicals, abstracting/indexing journals, bibliographies
8. Patents: U.S. and at least abstracts from Belgium, France, Germany, Great Britain, Italy; indexes

9. Research reports: need a functioning comprehensive depository; they are difficult for a small company to identify, to locate, and, especially, to get (and apparently they are for university research workers, too)

10. Classified reports and military specifications: often may be quite necessary, particularly when bidding on a government contract and again when working on the government job itself to verify results or to resolve unexpected snags; frequently difficult to obtain

E. Journals and other primary source material. Note holdings recommendations.

1. Professional, scientific, technical, learned society publications (journals, research reports, proceedings, etc.): current subscriptions plus backfile (30 years or v.1+) but note that life sciences and earth sciences need older files than, e.g., engineering does. Should have important U.S. and foreign titles, by subject, by country; also preprints and papers not published elsewhere.

2. Association and institute publications: e.g., NELA, Edison Electric, Battelle, Brookings, National Industrial Conference Board, etc.; selection and holdings as in E.1.

3. University publications (schools, departments, experiment stations, etc., in appropriate subject areas): selection and holdings as in E.1.

4. Labor, management, farm organizations publications: local, state, and national (some are international); selection and holdings as far as possible as in E.1.

5. Bank, chamber of commerce, cooperative, union publications: local, state, and selected national; current subscriptions plus selected backfiles
6. Business papers: e.g., Fortune, Business Week, Forbes, Economist, Wall Street Journal, etc.; current subscriptions plus 10-15-year backfiles (including representative foreign titles)
7. Trade journals: e.g., McGraw-Hill group, Chilton group, Fairchild group, etc., in all fields (check SR&DS, Industrial Marketing, etc.); selection and holdings as in E.6.

F. Reference works and other secondary source material. Should be up to date.

1. Basic abstracting and indexing services, complete from v.1, no.1.
2. Specialized abstracting and indexing services as required, also complete
3. Dictionaries, encyclopedias, handbooks, tables (critical, mathematics, ephemeris)
4. Codes: boiler, building, electrical, plumbing, power test, etc.; local, state, U.S., selected foreign
5. Standards: ASA, ASTM, ASME, NEMA, ISO, etc.; state agencies; U.S. and selected foreign
6. Specifications: federal, state, military, trade association, etc.; U.S., state, selected foreign
7. Operations manuals: radios, machinery, instruments, etc., for all equipment available on the open market (advertised, used, surplus); the manuals often are still classified even though

the equipment described is readily available.

8. Trade catalogs: e.g., Sweet's Files, Thomas' Register microfiche, etc.

9. Business services: usually are needed in the office where they can be studied carefully so availability at a distance (by telephone, e.g.) is not very satisfactory, and it takes time to go to a library even if it is in the same building and on the same floor

10. Financial services: also need to be studied, preferably in private

11. National bibliographies and subject catalogs

G. More specialized material. For reference, description, background.

1. Agricultural: large farm operations - methods, equipment (performance, evaluation); research - methods, results.

2. Overseas: local facilities (transport, storage, distribution, etc.), regulations, specifications, exchange, language, markets.

3. What's new: materials (uses, properties), processes, research, books, journals, equipment (performance, evaluation), instruments, construction (building business generally), legislative activities (by industry, by state)

4. Occupations, self-improvement: management; office management (supervision, accounting, personnel), trades (metal, machine shop, etc.), business (mail order, franchise, retail store, etc., also how to start one but more specialized than present SBA publications), commercial and industrial art and design, data processing, automation, information retrieval systems

(for personal files, for company files), self surveys; need material at all levels (and some in Spanish) including material for adult education classes (vocational high school) and for mature readers.

5. Industrial films: in-service training, safety, techniques, informational, oceanography, nature study, conservation, etc.
6. Specific industries: mop, broom, brush making; sugar beet; sheet glass; vending machines; leather working, jewelry making, custodial (in Spanish)
7. Collected speeches and an index to speeches of prominent people, especially industrialists
8. Index to company publications, by subject and by company name
9. Evaluation and performance data of industrial equipment, machinery, instruments (a kind of Industrial Consumer Reports?)
10. Journals and works cited in articles and in, e.g., SBA bibliographies

H. Other more technical works. For reference, for circulation.

At least four of the outsiders with whom I spoke urged libraries to provide more "high grade reference material" and "high level technical works", especially for the creative persons in the community and for those with inquiring minds so that their minds might be "stretched" even though these individuals might not be able at once to comprehend fully what they read.

Not only are urbanites and suburbanites generally better educated than ever before but also, according to a county agent, more farmers in California are now college trained; California has the highest education-attainment record in the country.

(See the Martin report, p. 19.)

Many libraries, I believe, are reluctant to buy highly technical journals and books because they are so expensive, so specialized, so difficult to evaluate, so troublesome to select, so uncalled for, and consequently so hard to justify. However, a few libraries, San Diego Public among them, have been building up such technical collections for some time and, I have been assured, they are used. Remember the experience of the enterprising small public library that labeled its little-used new books "For only mature readers"; they went like hot cakes. Leon Carnovsky put it this way: "I do not wish to imply that merely making important books available will result in their being read. I do claim that making them available is the first step in encouraging their reading, and we may be surprised at how widely they are read." ("Community analysis and the practice of book selection" in The Practice of Book Selection, Chicago 1940, p. 37)

The root of the matter, however, is that a great many public libraries have not yet decided what they should be to their communities.

This may be the place to mention two United States government publications I read just recently which discuss what surely must be one of the crying information needs of business and industry: Improved Statistics for Economic Growth. One is "a compendium of views and suggestions from individuals, organizations, and statistics users" (July 1965, 89th Congress, 1st Session) and one gives the "comments by government agencies on views submitted" (March 1966, 89th Congress, 2nd Session). Each is a

joint committee print and each was submitted to the Sub-committee on Economic Statistics of the Joint Economic Committee, Congress of the United States. The views expressed in the earlier publication (July 1965) and the views about statistics sources I gathered in library after library on my expedition are remarkably similar. The comments by government agencies in the later publication (March 1966) show that these agencies are aware of the lacks and deficiencies pointed out in the earlier one and are, wherever possible, attempting to improve the statistics-gathering activities of the federal government. Hearings on Government Price Statistics (May 1966) and a report on the hearings (July 1966) also aired users views and told of progress made in improving the government's statistics-gathering activities.

2. Meeting the Information Needs of Business and Industry

It is very likely true that a great many, if not most, of the information needs mentioned in the previous section are regularly being met by public libraries in California. It is also very likely true that publications and services, often obscure, already do exist that can help to meet information needs that are not now being met simply because the publications or services are not too well known.

I.

Government publications, of course, are the primary source for statistical data. I want to call attention here to a number of recent government books, pamphlets, and reports which every library can read and check if it wishes to develop or expand its statistical and other resources and services in the area of business-industry. Both published and unpublished data sources and both current and retrospective materials are covered.

A. California.

1. Elwonger, Ruth. Introduction to State Information Sources. Sacramento, California State Library, Government Publications Section, 1966. (GPS Publication 1) Free.

   Covers both published and unpublished sources, but emphasizes the unpublished. Includes buying list of 11 "Tools to assist in identifying California State Government information sources" and "Other resources" (e.g., "Complete" depository libraries for California State publications).

2. Lee, Constance E., and Schell, Mary E. "Business and population

statistics relating to California in government publications." News Notes of California Libraries, April 1957, p. 394-433.

Includes both U.S. and California government publications and covers state, county, and city statistics in these categories: I. Population; II. Financial and business enterprises; III. Prices; IV. Production, sales and inventories; and V. Labor. Titles are arranged in tables and are annotated; in addition there is extensive descriptive text. Dated editions can be clues to latest (or older) publications.

3. California. State Library. California State Publications. Sacramento, Documents Section, Office of Procurement, P. O. Box 1612, Sacramento 95807. Monthly with annual cumulation. Free to libraries.

A basic tool, arranged by California State library call number, more or less alphabetical, listing virtually all California state publications received at the library excepting those of the University of California, those of a confidential nature, and those issued for the internal administration of state agencies. Gives addresses of boards, commissions, committees, and agencies outside Sacramento; if no address is given the agency is in Sacramento. Lists all depository libraries. Indexed.

B. United States.

4. U.S. Bureau of the Census. Bureau of the Census Catalog 1965. Washington, GPO, 1966. Quarterly with annual cumulation. $1.75 per year. 1965 annual, 55 cents.

Lists available publications (Part I) and gives information

on the "Availability of unpublished data" (p. 3), on "Policy governing special work and services" (p. 3-5), and, in Part II, on "Unpublished materials" (p. 121-156) including an "inventory of machine-readable data" (i.e., on tapes and punchcards) covering Agriculture, Business, Construction, Foreign Trade, Geography, Governments, Housing, Industry, Population, Transportation, Special Compilations and Projects. This inventory was first published in the 1964 issues (p. 101-143 of the 1964 annual).

5. U.S. Department of Commerce. Business and Defense Services Administration. Activities and Services of the Federal Government in Distribution Research - A Summary Report. Washington, GPO, 1957. 40 cents.

Prepared for the President's Conference on Technical and Distribution Research for the Benefit of Small Business, September, 1957. Covers I. Major periodic statistics programs - benchmarks and current data; II. Broad economic analyses and industry studies; III. Distribution research programs on operations and markets; IV. General statements on dissemination of distribution research findings and other marketing information through publications; V. Special studies, special tabulations, and other types of direct assistance to private firms and communities in the solution of marketing problems (i.e., from unpublished data); Appendix. List of major federal government statistical publications useful in distribution. Perhaps dated, but useful since some of this information is otherwise scattered or unavailable (e.g., V).

6. _____. _____. Marketing Information Guide. Monthly. Washington, GPO. $2 a year.

Annotated list of selected current publications (books, periodicals, directories, studies, reports, statistics) from federal, state, municipal, and private sources, associations, universities, covering marketing and distribution in the United States and in foreign countries.

7. _____. _____. Measuring Markets. A Guide to the Use of Federal and State Statistical Data. Washington, GPO, 1966. 50 cents.

Good general discussion covering 1. The concept and measurement of a market, 2. Types and sources of government statistical data for market measurement, 3. Cases illustrating the use of government statistics in market measurement, 4. Bibliography (Sources of statistical data, Methods of analysis, Bibliographies, Directories).

8. _____. Office of State Technical Services. Compendium of Technical Information Services. Springfield, Virginia, Clearinghouse for Federal Scientific and Technical Information, June 1966. PB-170301 STS-103. $3.

This preliminary edition lists 136 U.S. trade associations, professional societies, educational institutions, libraries, and government agencies that render technical information service to industrial firms, plus 18 in Canada. Four are in California, 18 are in D.C. The services listed are representative of a wide range both of subject matter and of methods used for disseminating information on new technological

developments.

9. U.S. Small Business Administration. Publications. Washington, SBA, 1966. Free.

One list covers Free Publications Currently Available (Management Aids, Technical Aids, Small Marketers Aids, Small Business Bibliographies, and Management Research Summaries); one covers For-Sale Booklets (Small Business Management Series, Starting and Managing Series, Small Business Research Series, Nonseries Publications, Periodical, and Aids Annuals - compilations of out-of-print Aids); an annual list is a complete Classification of Management Publications available in 28 categories with prices, if any. Noteworthy samples: Small Business Bibliography No. 12 (Statistics and Maps for National Market Analysis, April 1965), No. 13 (National Directories for Use in Marketing, March 1964), No. 18 (Basic Library Reference Sources for Business Use, September 1966); Technical Aids No. 86 (PERT/CPM Management System for the Small Subcontractor, March-April 1964); Management Aids No. 111 (Steps in Incorporating a Business, January 1960); Small Marketers Aids No. 71 (Checklist for Going into Business, September 1961); Management Research Summary No. 19 (Market Research and Planning for Small Manufacturers, April 1961).

C. Other standard works and recent articles that should not be overlooked.

10. American Marketing Association. Bibliography Series. 2. A Basic Bibliography in Marketing Research (2nd ed.), 1963; 4. A Basic Bibliography in Industrial Marketing, 1958;

6. Current Sources of Marketing Information, 1960. Send for list of bibliographies.

11. Coman, E. T., ed. Sources of Business Information. Berkeley, University of California Press, 1964.

12. Frank, Nathalie D. Market Analysis: A Handbook of Current Data Sources. New York, Scarecrow, 1964.

13. Georgi, Charlotte. "How to start a business library - in one easy lesson." Library Journal, March 1965, p. 1058-1062.

14. Hanson, Agnes O. "Business literature bibliography." RQ, Spring 1966, p. 13-15.

15. Harvard University. Graduate School of Business Administration. Baker Library. Reference Lists. No. 17. Business Literature: A reading list for students and businessmen, 1959; No. 24. Selected Business Reference Sources, 1965. Send for list of Lists.

16. Special Libraries Association. Special Libraries (monthly). Division bulletins. Bibliographies. Other publications.

17. Wasserman, Paul. Information for Administrators. Ithaca, Cornell University Press, 1956.

Federal government publications, a major source of the statistical, economic, and business information wanted by business and industry, are available in 73 depository libraries in California, 42 academic, 27 public, and four semi-public, from Arcata to San Diego. Most of these are selective depositories. The University of California at Berkeley (since 1884) and the California State Library (since 1895) are the oldest complete depositories; the San Diego Public Library and the San Francisco Public Library are also complete depositories. The California State

Library was designated a regional depository in 1962 (Depository Library Act of 1962, Section 9) and serves as the central resource for federal documents in the state. The California State Library and the University of Southern California have substantial holdings of non-depository documents, too, in microprint edition.

In addition, the U.S. Department of Commerce Field Offices in Los Angeles and San Francisco serve as outlets for reports and statistical data of the Department of Commerce and serve as official sales agents for the Superintendent of Documents for the distribution of government publications relating to business. The U.S. Small Business Administration Field Offices in Los Angeles, San Diego, and San Francisco have copies of all SBA publications for reference use and usually have copies of the free ones for distribution to people from business and industry who request them.

California state publications, another major source of information wanted by business and industry, are available in 97 depository libraries in the state, 34 academic, 44 public, 18 law, and the State Library. Of these, Fresno County, Los Angeles, Oakland, San Diego, and San Francisco Public Libraries; University of California at Berkeley, Davis, and Los Angeles Libraries; San Diego State College Library; and, of course, California State Library are complete depositories. The libraries of the University of California at Los Angeles and at Berkeley and the State Library maintain historical collections of California state publications, and the latter two also have good collections of other states' publications, especially the western states.

Municipal publications are still another source of business-industry information and both the California State Library and the University of

California at Berkeley Library have comprehensive collections of California local publications and selected local material from cities and counties in other states. Three libraries in California (of 17 in the country) are Municipal Exchange Libraries which maintain collections of selected local publications from the participating cities. These are the Los Angeles Public Library Municipal Reference Department, the Sacramento Public Library, and the San Diego Public Library's Government Reference Library. Local, that is, municipal, government publications are rarely indexed, listed, distributed, or, indeed, known except locally in the cities where they are published. About the only regular source of information about them, aside from the distribution lists of the Municipal Exchange Libraries, is New York Public Library's Municipal Reference Library Notes which has been published since 1914 (monthly, except July and August, $2.50 per year). Besides the publications of New York City it also lists publications of New York State, other cities, other states, and metropolitan areas, and of the United States if relevant. It also runs bibliographies, articles. queries, notes, and other timely news and information.

Finding out about government publications is one thing; getting them is often another. Herbert K. Ahn, in a paper, "The acquisition of government publications," covers both; it was published in Acquisition of Special Materials, edited by Isabel L. Jackson (San Francisco, Special Libraries Association San Francisco Bay Region Chapter, 1966), pages 1-40. While the papers in this book were addressed to special librarians, all librarians will profit from them; I have made other references to this publication in other parts of this report.

II.

Since the State Technical Services Act emphasizes the usefulness to industry and business of federally sponsored research it will be helpful to know what the major research-oriented government agencies are, what they are doing about the dissemination of the results of their research, and how technology developed in federal R&D projects is being transferred to industrial and consumer use now, particularly from the vigorous military and space projects.

The basic document which describes the pattern of organization for research in the various United States government agencies is Federal Organization for Scientific Activities 1962 (NSF 62-37), Washington, GPO, 1962, $3.50. This publication is complemented by a series of bulletins issued by the National Science Foundation, Scientific Activities of Federal Agencies, which describe the policies and practices of these agencies relative to their scientific and technical information activites. These, like the basic document, are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at varying prices; they are announced in the Monthly Catalog United States Government Publications and usually in the biweekly Selected United States Government Publications as well. No. 32, on the Department of Defense, part 1, for example, was announced in the September 1966 Monthly Catalog.

Among the number of federal agencies that render technical information services to industrial firms in one way or another at least these five merit special attention here.

1. Clearinghouse for Federal Scientific and Technical Information, U.S. Department of Commerce, National Bureau of Standards,

Springfield, Virginia, 22151.

This is the central agency through which unclassified technical reports generated by government research are collected, announced, and made available to the public. It publishes U.S. Government Research & Development Reports (a semi-monthly abstracts service, $30 per year), Government-Wide Index to Federal Research & Development Reports (a semi-monthly index to the federal government's four major technical announcement journals, $22 per year), Fast Announcement (news releases on the latest reports, sent to interested sectors of commerce and industry, free), and bibliographies and reviews in a wide variety of fields.

2. Science Information Exchange, Smithsonian Institution, 1730 M Street, N.W., Washington, D.C. 20036.

This agency collects records of current research proposed and in progress from all available sources, government and non-government, covering all subjects in basic and applied research in the life, physical, engineering, and social sciences. The information is made available to all recognized research organizations and to the participating agencies, and can answer, in part at least, the question, "Who is doing what, where, now?"

3. National Standard Reference Data System, National Bureau of Standards, Institute for Basic Standards, Department of Commerce, Washington, D.C. 20234.

The general objective of NSRDS is to coordinate and integrate existing data evaluation and compilation activities into a systematic, comprehensive program giving the U.S. technical community the best possible access to up-to-date critical

quantitative data of physical science. Its data publications (monographs, loose-leaf sheets, tapes, or whatever) will appear in one or another of these categories: 1. General, 2. Nuclear properties, 3. Atomic and molecular properties, 4. Solid state properties, 5. Thermodynamic and transport properties, 6. Chemical kinetics, 7. Colloid and surface properties,and 8. Mechanical properties of materials.

4. Atomic Energy Commission, Office of Industrial Cooperation, Argonne or Oak Ridge National Laboratory, Argonne, Illinois 60439, or Oak Ridge, Tennessee 37830.

Each of these offices was set up to facilitate the application to nonnuclear industrial use of the "technology spinoff" of AEC research and development, in such areas as instrumentation, shop practices, nondestructive testing, chemical developments, and irradiation services. In addition to answering industrial inquiries, each office arranges consultations, visits, conferences, and meetings; makes publications and reprints available; and participates in industrial and professional society gatherings of different kinds.

5. National Aeronautics and Space Administration, Technology Utilization Division, Washington, D.C. 20546.

TUD's mission is to select from NASA's technical documents the discoveries, ideas, and new techniques that appear most promising for adaptation by the non-aerospace technical community and to publish what it finds in one of four series: Tech Briefs (one- or two-page bulletins describing individual innovations in

one of these subject categories: electrical-electronic, energy sources, materials, life sciences, mechanical), Technology Utilization Notes (compilations of innovations by selected technical areas), Technology Utilization Reports (detailed descriptions of innovations of high industrial promise, evaluated), and Technology Surveys (State-of-the-art summaries of NASA contributions to whole areas of technology).

One of the ways in which federal technical publications are made available to the public is through centers which maintain depository collections of the technical publications. The principal technical literature center is, of course, the Clearinghouse for Federal Scientific and Technical Information (CFSTI); all unclassified technical reports generated by government research, including those of AEC, NASA, and the Department of Defense (DOD), are available here. Classified technical reports are available through the individual agencies and only to contractors, other federal agencies, and authorized persons with the "need to know". Both the National Agricultural Library (NAL) (Washington, D.C. 20250) and the National Library of Medicine (NLM) (Bethesda, Maryland 20014) also act as the principal technical information centers in their respective fields.

In addition, each of these agencies has (or has had until recently) a number of regional technical literature centers in which depository collections are also maintained. These may be in agency field offices or research centers, in universities, or in public or private research libraries; and they may be complete or selective depositories, cooperating agencies, or specialized subject centers.

For example, the Clearinghouse (CFSTI) in 1962 established 12 Regional Technical Report Centers at major research libraries across the

country. In return for some financial assistance the centers were responsible for maintenance, reference service, interlibrary loan, and photocopying within their areas of the reports they received from CFSTI. Curtailment of funds, however, ended this federal assistance as of June 30, 1964, but CFSTI continued to supply microfiche copies of reports (and teletype reference service) to centers that agreed at that time to maintain the collections they had and to offer limited service. Of the two centers in California, the University of California at Los Angeles withdrew from the program while Berkeley still continues to receive the microfiche reports.

NASA has quite a variety of places where its reports are available: at the Clearinghouse and at the 11 Federal Regional Technical Report Centers mentioned above, at a large number of university and technical-society libraries and at some 37 public libraries in many parts of the country (Los Angeles, Oakland, San Diego, San Francisco, in California), at eight NASA-supported Regional Dissemination Centers (University of New Mexico at Albuquerque is closest to California), at NASA's Scientific and Technical Information Facility near Washington, D.C., and at NASA research laboratories and field offices (Ames Research Center at Mountain View, Flight Research Center at Edwards, Jet Propulsion Laboratory at Pasadena, and Western Operations Office at Santa Monica, in California).

AEC also has a number of places where its unclassified reports are available: at the Clearinghouse and at the 11 Federal Regional Technical Report Centers, at some 90 public and university libraries (San Diego Public, Stanford Research Institute at Menlo Park, and University of California at Berkeley and at Los Angeles, in California), and at 19

AEC-supported research laboratories and Specialized Information and Data Centers (Lawrence Radiation Laboratory at Livermore and at Berkeley, in California). AEC also maintains 10 motion picture film libraries for free loans for educational, nonprofit, noncommercial screenings (one is at Berkeley).

DDC (Defense Documentation Center, the DOD's scientific and technical report agency), until recently, had six field service offices where its reports were available to authorized users; five of these were closed on September 16 (including the one in San Francisco) but the one in Los Angeles has remained open for the time being. DDC unclassified reports are available at the Clearinghouse and at the 11 Federal Regional Technical Report Centers. Faster service from its headquarters in Alexandria, Virginia, was said to be the major reason for closing the field offices, but a number of California special librarians are still not very happy about it all. Perhaps the fact that many eligible users didn't even know DDC existed had something to do with, possibly, such scant use of the field offices that they could not be justified.

NAL has six Agricultural Research Service Field Libraries (one at Albany, California) and seven Forest Service Field Libraries (one at Berkeley), and has designated the Higgins Library (University of California at Davis) as the national repository and information center for material on agricultural machinery.

NLM's MEDLARS tapes are (as of November 1966), or soon will be, available at five university medical libraries throughout the country including the one at the University of California at Los Angeles.

So there are quite a few places in the United States and several in California where federal technical research reports are now available in

full-size printed or facsimile copy or in microform copy (card, fiche, film) either on site or by mail.

One of the best discussions I have read recently about government research reports is by Danny T. Bedsole, "Technical reports," which was published (p. 73-96) in the Acquisition of Special Materials mentioned earlier (p. 18). It covers history, identification, procurement, and bibliographic control of both classified and unclassified reports.

There have been many articles and reports published in the past few years on "spinoff" or "technology transfer", the application of technical knowledge in an area other than its field or place of origin, one of the concerns of the State Technical Services Act. The Department of Commerce Office of State Technical Services itself has just published a 50-page guide to this literature: PB 170991, Technology Transfer and Innovation, a Guide to the Literature, $3 (microfiche 50 cents) from the Clearinghouse. The publication cites and summarizes the literature and also reviews the ideas contained in the literature under these headings: 1. aspects of technological change, 2. information on transferring space and military technology to industry, 3. factors that encourage innovation, and 4. congressional hearings regarding problems associated with technology transfer.

And another congressional study on federal R&D spinoff has recently been announced. The Subcommittee on Science and Technology of the Senate Small Business Committee will attempt to define the federal role in transferring technology developed in federal R&D programs to industrial and consumer use. Senator Jennings Randolph (W.Va.) is chairman.

Manifestly there is concern about the possible use by business and industry of the results of federal research and development. But it seems to me that there are important aspects of the matter which have not yet

been adequately dealt with; some of these have relevance in other parts of this report, too, as we shall see. Here are a few:

1. Lack of knowledge on the part of the public generally and of business and industry particularly that (a) the government is deeply involved in technical research and development, (b) the results of this R&D are available in any form at all, (c) there may be relevance in the results for non-nuclear, non-military, non-space, non-research-oriented industry and business in general, and (d) there may be relevance for my firm in particular.

2. Unawareness of, unpreparedness for, inexperience with, or simply the non-acknowledgement of problems, mistakes, deficiencies, or defects in a business or industrial firm on the part of its owner or its management.

3. Inability or unwillingness on the part of the library or document center which has the reports and other publications to give the kind of information service from the collection that is needed, expected, or, indeed, required by law. Staff, facilities, and policy are involved here concerning access, reading, loan, photocopying, and reference service whether on site, by telephone, or by mail.

4. Incompleteness of some of the depository collections, lack of access to some of them (because of security or other restrictions or of limited open hours), inconvenience and slowness of service from distant collections, and inadequate bibliographic or physical control of some reports or collections.

5. Esoteric, recondite, or confidential (i.e., classified) nature of many of the reports or, conversely, the unrefereed, repetitious, or pro forma nature of others - at least in the minds of some of those who

have been referred to the reports by literature citations, indexing or abstracting services, librarians or information officers, or the producing agency. In other words many reports need to be declassified, screened, explained, paraphrased, or even perhaps not published in the first place, especially if there is going to be a concerted effort to get ordinary businessmen and owners and managers of small industries to use them once they know of them.

Hopefully something will come of the State Technical Service Act to improve some of these conditions. Many agencies, both government and nongovernment, have been working on these problems for a long time and have brought about needed and appreciated changes. But there is still room for improvement.

III.

Many publications are readily available to aid librarians in developing their science-technology collection whether for reading, for reference, or for research use. They do, however, require some study and application; just having them won't help much.

Here are a few basic ones:

1. American Association for the Advancement of Science. Science Books, a Quarterly Review. Washington, AAAS, 1965-. Quarterly. $4.50 per year.

   Annotated, graded list; updates triennial editions of Hilary Deason's AAAS Science Book List for Young Adults and A Guide to Science Reading.

2. Illinois. University. Graduate School of Library Science. Collecting Science Literature for General Reading. Champaign,

Illini Union Bookstore, 1961. (Allerton Park Institute Papers No. 7) $2.

Collection of papers covering the history and development of science, reader interest, publishing, selection, components of the collection.

3. Jenkins, Frances Briggs. Science Reference Sources. 4th ed. Champaign, Illini Union Bookstore, 1965. $2.50.

Selected, representative bibliographic tools and reading lists, arranged by subject; includes all known important reference works and selection aids.

4. National Science Foundation. Scientific Information Notes. Washington, GPO, 1959+. Bimonthly. $1.25 per year.

"Reporting national and international developments in scientific and technical information dissemination."

5. New York Public Library. New Technical Books. New York, NYPL, 1915+. 10 issues per year. $5 per year.

A selective classified list with descriptive annotations; includes technician-level, general, reference, and research-level books.

6. Special Libraries Association. Technical Book Review Index. New York, SLA, 1935+. 10 issues per year. $10 per year.

Excerpts from cited reviews in current scientific and technical journals, U.S. and foreign, emphasizing advanced-level books.

True, more attention is paid to books in these aids than to periodicals, but then book selection is a more persistent library activity than periodical selection is, even though periodical holdings bulk large in any science-technology collection and bulk consistently larger as a collection approaches

research library level. In the long run it is the periodicals which set the tone and the caliber of any science-technology collection so they must be chosen wisely if not often. I think the literature guides and other periodical selection aids listed in items 2 and 3 above plus experience and close attention to the information needs of a library's community will do very well, properly used, in assisting the librarian to build up the library's periodicals holdings which, together with well-selected books, will become in time the appropriate science-technology collection to serve the needs of that community.

IV.

The larger a library becomes and the more diversified (in subject, in level, and in kind) its information services get to be, the more necessary it is that that library have a broad base of both general and specialized bibliographic tools, reference works, and periodicals, and particularly periodicals for information work in science, technology, business, and industry.

For this reason I believe that each library which acts as a subject reference center in the areas of science, technology, business, and industry (for a region, a system, a metropolitan area, or a city) should as a matter of course have in its basic collection all the periodicals that are indexed in these four services: Applied Science & Technology Index, Biological & Agricultural Index, Business Periodicals Index, and Readers' Guide to Periodical Literature. Not counting duplications the total comes to about 555 titles. The indexing services themselves, I assume, will also be available in each center (along with other more specialized services) and in each of its member libraries.

The periodicals indexed in these services are the ones that are going to be called for most frequently simply because the services are, or will be, widely available and are relatively easy to use. Furthermore, all of the more technical periodicals in this group (perhaps 300 of them) are also covered in other more specialized indexing and abstracting services and will be called for by users of these services; many of the more technical periodicals are also on a number of "most-cited-periodicals" lists.

With these indexed periodicals available in every subject reference center in the state, every user in every library in any subject center complex in California will be assured of immediate (or within 24 hours at most) access to any article he finds indexed in these basic reference tools. He will not have to be referred somewhere else, nor will a librarian in any outlying library need to check a union list of currently received titles for the possible location of any of these periodicals. As a matter of fact, these titles - all 555 of them - will not need to be included in any union list at all, particularly if each subject reference center has or acquires substantial backfiles of at least those that are regionally important.

These 555 current titles (with appropriate backfiles) thus become the common, broad, periodical-resource base (the essential part of each subject center's core reference collection) for current and retrospective information in science, technology, business, and industry throughout California. It is on top of this base that each subject center will build its own strengths, peculiar to the information needs of its regional and its own local communities, subscribing to all other periodicals that are regionally or locally important regardless of whether or where they are

indexed or abstracted and acquiring similarly important bibliographic tools, reference works, government publications, audio-visual and vertical file material, and circulating books, making effective use of the selection aids already discussed.

Each local library in a complex may well need quite different subject materials and reference works from any of the others, so it must build its collections accordingly, emphasizing the locally strong subject interests and reference demands and leaving the locally odd subjects and reference works to the subject reference centers; the center, too, must make effective use of the selection aids already discussed, more effective, really, since it has to be more purposefully selective. (It should be remembered that each subject center for a complex of libraries is also a local library for its own particular community.)

But first, of course, each library must know what the locally strong subject interests and reference demands are.

"It is axiomatic," Lowell Martin said 23 years ago, "that library service should be adjusted to the people served." ("Community analysis for the library" in The Library and the Community, edited by Leon Carnovsky and Lowell Martin, Chicago, University of Chicago Press, 1944, p. 201-214) Yet, outsiders and librarians both agree that all too many public libraries today are offering service to a largely unknown and anonymous public, earnest service, to be sure, and remarkably diversified, but at the same time quite impersonal and group-oriented. Maybe this kind of service is as it should be, or as it only could be, but even the best service, for it to be effective to business and industry, must also be particular and personal and adjusted to the individual. Special library service is. Children's library service is.

It may be presumptuous to talk of public library service to individuals when public library service to the community is not always what it should be: witness the limited success of the ALA's Library Community Project of not so long ago. As Harold Goldstein expressed it, the Library Community Project "had considerable success" but the idea did not spread; "One answer for the lack of enlargement is that librarians before, during, and after the project were not convinced of their responsibility for assuming leadership in putting the library and its community together, with special reference to the role of the adult at both ends." ("And gladly serve? Thoughts on education for adult services librarians." Illinois Libraries, September 1966, p. 519-522)

Perhaps the only way for a library to find out who the individuals and the groups are in its community is to make a thorough community analysis. The Martin paper quoted above is still about the best treatment of community analysis in the literature, even though its references need updating. (See the annotated "Basic bookshelf for library-community study" in the ALA Library Community Project publication Studying the Community, Chicago, ALA, 1960, p. 83-88.) And the Carnovsky paper referred to earlier on page 9 also is a good one.

Toward the end of his paper, Dr. Martin briefly discusses reading needs of industry:

"The requirements for determining the reading needs of an industrial concern serve to illustrate the extent to which the surveyor must be prepared to go in consulting personal sources. They serve also to reveal why the suggestion is made that this stage of a community survey might well extend over a whole year.

"To identify the reading needs of an industry, it is necessary to understand in detail the manufacturing process carried on and to know precisely what skills are employed. Simple questioning of the officials of a company as to the books the workers need is likely to yield meager results. The purpose of a complete analysis is not merely to discover the reading materials that officials with very limited book knowledge can name but to identify potential reading needs. Contact with individual workers is desirable. It may also be necessary to study the training program of the industry and to suggest points at which printed materials can shorten or enrich that program. These are time-consuming tasks, but they point the way to a sharpening of public library service." (p. 212-213)

In his paper Dr. Carnovsky also advocates direct contact:

"Librarians have generally little more than the vaguest notion concerning public reactions to their institution, and surely it would be difficult to devise a better corrective to this lack than actual contact with the public itself. To limit contact to those who actually come to the library is to miss the persons whose disgruntlement may militate against their coming, or whose timidity or lack of information concerning the library effectively blocks them. One hesitates before advocating a house-to-house canvass to publicize the library or to sound out public sentiment concerning it, yet this is not beyond the bounds of possibility and would surely provide an excellent form of training which is but little employed." (p. 24)

A community survey is the foundation of both effective book selection and effective user service in any library. But a community, if alive, is always changing. And the library, to stay alive, must regularly adjust

itself to this continual change. Community surveys, however, take time and money so only a few libraries, if that many, can afford them very often. What some libraries have done is to develop a corps of "dynamic ambassadors" (as Eleanor Smith calls the community coordinators of the Brooklyn Public Library) to represent the library in the community and the community in the library, not just once but all the time the year around. ("Reader guidance: are we sitting down on the job?" Illinois Libraries, September 1966, p. 527-532)

These "ambassadors" may be librarians ordinarily assigned to no other duties in the library but to get to know an area of the library's community well by going out and about in it; or they may be, I understand, librarians whose regular duties are inside a branch or regional library and who take the time only on occasion to go out into the community to get to know it as well as possible. One major result of activities of this kind, suggested Kathleen Molz, "is a specific book purchasing policy, one that reflects more closely the insistent needs of the area, of which (the coordinator) is personally aware." ("Joiner and goer." Wilson Library Bulletin, December 1963, p. 349-351)

Continuing surveys are quite common in the periodical and newspaper publishing fields where it is necessary at any time to know the composition of a magazine's or newspaper's readership in order to attract (or to keep) advertisers. (They also like to know about advertising or edited material "reader impact" too.) Similarly, radio and television stations make continuing audience surveys. Reports on these surveys are very often quite specific for relatively small areas, so some of them at least could be useful to a public library as a check on (or even as a major source of) information about the composition of its community or

of a part of it. Furthermore, I understand that it is possible to arrange with a survey service to tack an extra question or two on to its regular survey questionnaire or question list; the cost would depend on the size of the sample used for the survey and the area covered, but it might well be worth it to a library that wants to find out something conveniently, expertly, and in a hurry.

The addresses of your local newspapers and radio and television stations you can find readily. The addresses of periodicals, by type and subject, are in one or another part of Standard Rate & Data Service or in the periodicals themselves. The addresses of several readership survey services and of media which make frequent readership and audience surveys are given in Nathalie Frank's Market Analysis (item C.12, p.16); as a matter of fact there are several sizeable directories of agencies which specialize in consumer, marketing, advertising, and community surveys: one of the most comprehensive is Bradford's Directory of Marketing Research Agencies in the United States and the World, Middleburg, Virginia, Ernest J. Bradford, 1963-1964, 10th ed.

3. Patterns of Service, Characteristics, Catches, and Rubs

"If a patron, a small business man, for example, comes in with a problem we send him to the catalog first; then when he comes back to the desk we suggest other sources, indexes to journals, government documents, handbooks, encyclopedias, and so on."

"If the desired material is not in the library, the patron is usually referred to some nearby library which probably has it; we sometimes check with the library first before we refer him to it. We may, of course, ask for it on interlibrary loan from outside the area, but we rarely do this."

"We prefer to refer users to other libraries rather than to get material on interlibrary loan for them since the local residents are all accustomed to driving all over the area for services of all kinds anyhow."

"Actually we have no demand for technical information, technical journals, and the like because UCLA (or UCB) takes care of the science-technology reference and resources needs in the area. Besides the industries here have contract arrangements with Cal Tech (or Stanford) for such service."

"We do not publish lists of new books or subject bibliographies since we have never had any calls for them. There is no point in putting out a list unless there is a reason for it."

"We really have no need for publicity or promotional material since we already are a success and we don't need to encourage more people to come into the library; we simply don't have the staff for it. But at least we don't try to discourage them."

"We have our reading rooms arranged by subject this way because we follow Dewey and it is so much easier to tell a patron that when he wants

to find a book all he needs to know is: from here to here in Dewey is downstairs, from here to here is upstairs, and here to here is in the basement, with a few exceptions and they are in general reference over there."

"We have very little in foreign languages; no one on our staff can read any of them except Spanish and our regular readers have never asked for anything in Spanish."

"Oh, no, we never allow reference books to go out even for a couple of hours. We have a photocopying machine on the first floor for anyone who wants to use it and he can copy as many pages as he needs for only 25 cents a page."

"We simply have no way of knowing just who are users are, not our small business patrons at any rate."

"We have most of the financial business services because they are asked for a lot, but no one has ever asked for the Encyclopedia of Chemical Technology."

No, these are not direct quotations I took down verbatim as I talked about the service to business and industry various libraries give. They only seemed that way as each evening I mulled over what librarians and patrons told me as I went from library to library. And they are, as a matter of fact, so reasonable, so natural, so familiar, rather like something out of a book of case studies.

But they also are possible clues to some of the reasons why the public library is not the information resource of first choice for industry or business, as one science-technology librarian remarked. In reality, this same librarian continued, there is very little rapport between the public library and industry or business. More than that, one very knowledgeable

"regular user" pointed out, there is actually a barrier, a language barrier, between the librarian and the patron: not only in the jargon and the professional terminology each uses but also in the ordinary words, what each person means by them and what he understands the other to mean by them. One person has no time to explain and the other has no time to find out for himself. Nor does the public library know very much about the industries or businesses in the community, this patron continued, or, indeed, the library's actual or potential users, or else the library's holdings and its services would more nearly meet their information needs, assuming, of course, that meeting the information needs of the community is in fact what the public library should be doing. (Only four per cent of what another user needs in aerospace subject areas can be found in any California public library.)

There are, we all know, many and great problems confronting public libraries in giving service to business and industry and no matter how well-intentioned the State Technical Services Act is, it is not going to solve them at one fell swoop. Yet I believe it is vital to the ultimate success of the Act (and of public library service generally) that we identify as many as we can of these problems, the catches and the rubs, in order better to deal with them.

In the course of our discussions during the two weeks I was on the road both librarians and outsiders offered a number of thoughtful comments, based on their own experience and observation, on the characteristics and on the magnitude of some of the problems involved in giving library service to business and industry.

The biggest problem, the one that came up time and time again, is the wide-spread public unawareness of library service in general; and especially

on the part of business and industry, the lack of knowledge, even the disbelief, that the library can do anything for them at all.

What has brought this situation about? Both the library and the business-industry community, I feel, are responsible for it. What can change it? Both the library and the business-industry community can - and must.

1. Even as recent as October 1966, a California businessman considers the public library only as a source for recreational reading or possibly as a place to get answers to general questions or for school children to do their homework. The kinds of journals this man wants to read for business purposes are, he said, "commonly not found in public libraries," and a colleague in the next office agreed with him. Neither one had bothered to find out if, by chance, they were to be found in the local public library, and the library, apparently, had not bothered to tell them - or anybody else - just what was available. I suspect that this concept of the public library as a source of recreational reading only is quite common, and not only in California; witness the letter to the editor of Library Journal (November 15, 1966, p. 5504) from a special librarian.

2. The average businessman is very much an individualist, or else he would not go into business for himself in the first place, according to a government official who deals with men in small businesses day in and day out. As an individualist he often feels he "knows all the answers" about the business and usually isn't aware that something (or someone) outside could improve it or even that anything could be wrong with it. The Small Business Administration goes out into the community

to get to know the businessmen and to encourage them to talk about their businesses, so to find any who may need help. In Canada the Technical Information Service of the National Research Council has been reaching out to Canadian industry in similar fashion for many years.

3. Both small businesses and large corporations are alike in their concern about the security of their professional and trade secrets, suggested one business librarian. In working with business people or industrialists the librarian must create and maintain an atmosphere of personal neutrality, discretion, trust, and confidence, as well as of competence, efficiency, awareness, and service.

4. Good public relations was universally acclaimed, and proper local and statewide library publicity was considered one aid to good P.R. But, cautioned one library director, publicity and promotional material directed at top management alone will do no good; the people who use, or should use, the library are usually below top management.

5. Public library information services and resources should be described and explained to businessmen only in small groups, suggested the head of a chamber of commerce industrial department. It will be necessary to overcome habit, tradition, inertia, and "frustration response" in the businessmen and this is more likely to be done in small gatherings rather than in large ones. (Besides it may be impossible to get a very large group together at any one time anyhow). But more to the point, perhaps, some one else suggested, it would be tantamount to a public admission of personal failure or incompetence for a businessman even to attend a public meeting on such a topic as "What a library (or information, or the State Technical Services Act) can do for you."

6. While most commercial businesses have relatively unsophisticated library or information needs, they also have little time to deal with such needs even if the needs are recognized, an assistant county librarian pointed out. They usually have few employees, so they must all be on the job all of the time.

7. Engineers, too, seem to have little time (and less inclination) to go to a library, public or technical. Besides being innately nonliterary and always fearful of being accused of "goofing off" in a library, technical men tend to disparage both the provider and the user of library services, not wishing to be identified with or perhaps even to associate with either the meek librarian or the "typical" patron (doddering, derelict, arty, drudging, scholarly, or whatever). Engineering students react the same way (in Canada, too) and so do engineers and scientists in industry: William T. Knox points this out in the November 1966 Special Libraries, "National Information Networks and Special Libraries", p. 629.

There are other problems, too, some outside the library, some inside.

1. A successful, developing industry is likely to move rather frequently, the county librarian observed. (It may need more space, more facilities, more access to raw materials or to markets.) It presents similar problems of subject development and service wherever it goes, and, conversely, wherever it has been.

2. An industrialist needs certain kinds of information on the job during the day, operational, statistical, analytical, and other kinds of information at home in the evening, planning, stimulatory, professional; and he may live and work in different library districts, presenting both libraries with a variety of little problems - subject coverage, access,

reference service, circulation, etc. But who should be responsible for commuters? or transients?

3. Browsing, for the creative person, is useful only in the book collection itself, not in the catalog or in an index, according to one consulting metallurgist. Direct access to the books and journals is necessary to feed his creativity which, he says, must have free rein. And he also needs a convenient place for quiet study and meditation. Libraries should be open longer hours, too.

4. Similarly an inventor wants immediate access to patents, and, since he often is not too sure of what he is looking for, he needs to get at a complete collection whenever possible. Neither mail order nor telephone service is a suitable substitute. Therefore, every patent collection should be open for use longer hours, and there should be more of them. Some inventors, too, may be reluctant to reveal their particular interests through mail requests for specific patents or lists.

5. Special librarians want to be able to get special short-time loans from public libraries of otherwise restricted materials (reference works, journals, e.g.) in order to use their own photocopying equipment or to serve emergency needs of their own patrons. Departmentalized libraries should have library-wide policy and regulations for all types of service, regular or special.

6. Departmentalized libraries also need strategically placed locator charts ("You are here", on simple easy-to-follow floor plans, e.g.) and clearly written handouts explaining and locating the library's subject collections, service, facilities, procedures, and regulations. This is according to a director of market research who has had to pick his way through all

too many libraries throughout the country. Only a few libraries, he feels, are arranged for convenience of use (Los Angeles Public is one), and no library has enough good, conveniently placed, photoduplication machines.

7. Another user of many libraries commented on the great variations among even nearby libraries in the forms used for service, for photocopies, for call slips, for charge slips, and so on, and in their regulations and procedures. He would like to have available locally information on (and copies of regulations and of all forms used in) all libraries likely to be used in person or through interlibrary loan.

8. A number of persons commented on the time lag between the date a new book is announced or is recommended for purchase in a library and the date it is actually available; for technical or business books long delays are highly undesirable. Yet smaller libraries did not seem to have unreasonable delays in acquisitions: thanks to size? to procedures (fewer OK's needed, e.g.)? to personnel?

9. Several persons felt that many important new works were not being acquired by some public libraries at all, and customarily such works are not available through interlibrary loan.

10. Both librarians and loyal patrons agreed that personnel may well be the biggest internal problem that libraries must face in giving service to business and industry, not so much because of the usual non-technical background of most librarians but more because of the unreasonable non-progressive attitudes of so many of them. We need personnel, said one librarian, who are at least psychologically oriented to change - of any kind - but especially to change in library technology, computers, mechanization, microforms, telecommunications, and so on. We need personnel,

said another librarian, who are not only alert, competent, and well-trained generally, but also well trained especially in reference service (first identifying then understanding the question) and in public relations (librarian-patron first contact, e.g.).

Public library service to business and industry, it was said, should be (1) as individual as children's librarians give, (2) as complete as special librarians give, (3) as convenient as branch banks give, and (4) as practical as county agricultural agents give. A tall order, perhaps, but business-industry-science-technology librarians can be tall people.

If not to the public library, where, then, does industry go for the information it feels it must have?

First, if it has one, to its own library, office shelves, or laboratory collection of handbooks and specialized journals. Next, perhaps, to its suppliers (of raw materials, equipment, containers, reagents, etc.), to its particular manufacturing association, or to a friend in another company. Then to a known specialized library in its field or to a university or other known research library, but the need (and the faith) must indeed be great for the small industry to go to this much trouble. Incidentally, many California farmers, fruit growers, wine makers, etc., I am told, deal directly with specific Davis (UC) professors, not the library, if they have problems; so many of them are Davis graduates. Or they get in touch with the appropriate crop association (raisin, almond, cottonseed, orange, etc.) or their own county agricultural agents.

And where does the small b·· nessman go for help or information? Some, those who are members, go to the local chamber of commerce for advice and consultation. A few, especially those who need money, go to the nearest office of the Small Business Administration where they are

usually surprised to discover a number of government pamphlets that can be helpful to them, too. Still fewer, but probably the best educated of the group, go to the business department of a familiar public library and browse. Most, apparently, just do not go anywhere; sooner or later they go out of business, at least out of <u>that</u> business.

As we have seen it is only for the commonly expected material, i.e., the very general and recreational, that industry or business would go first to a public library. And maybe this is as it should be - or only as it could be - given the resources, the staff, the space, the equipment, and the policies so many public libraries have to work with, not only in California.

4. Materials in Foreign Languages

One of the questions I asked in my discussions with city and county librarians was this: Is there a need for business-industry-science-technology material and library service in any foreign language, in Spanish for Mexican-Americans, for instance? Answers varied from a tentative "No" through "Maybe" and "Probably" to "We think so", but no one seemed to be certain one way or the other. Only in Oakland did I find anyone exploring local interest in and possible need for Spanish-language library service. (I have since learned that Los Angeles also is doing something about this largely unidentified problem.)

Other cities are turning their attention toward the more obvious and potentially more troublesome poverty, deprivation, and underemployment problems of Mexican-Americans rather than toward the merely possible information and library problems. Yet all these may be related.

Here is the situation:

In 1960, California had 1,426,538 white persons of Spanish surname living within its borders, just about 10 per cent of its total white population according to a summary report, "Minority Groups in California", in the September 1966 Monthly Labor Review, pages 978 through 983. (Nonwhite persons of Spanish surname were not included in the basic reports from which this article was summarized, so the total number of Californians of Spanish surname in 1960 probably was larger.) Most of them (80 per cent) were native born, most of them were of Mexican ancestry, and among the 20 per cent foreign born, 16 per cent had been born in Mexico. A bit over 70 per cent were less than 35 years old.

By occupation 4.5 per cent of the males were classed as "professional,

technical, and kindred workers" as against 15 per cent for all other white males, 15 per cent for Japanese males, and 16.9 per cent for Chinese males; another 4.2 per cent of the males were classed as "Managers, officials, and proprietors, except farm" as against 13.3 per cent, 7.9 per cent, and 14.3 per cent for other white, Japanese, and Chinese males respectively. This largely Mexican-American population also was not as highly urbanized as some of the other ethnic groups and its educational attainment was considerably below that of the total population and of the nonwhite population as well. A higher than average proportion of them were employed as farm laborers.

Sociologists, legislators, and, incidentally, advertising agencies are becoming more and more concerned about the acculturation and assimilation - the Americanization, if you will - of the Spanish speaking minority in the United States whether it be in New York, in Miami, in the Southwest, or in California: it is taking place slowly, very slowly in comparison with other ethnic minorities. Why? Because, says a marketing magazine, of "Easy access to the U.S. from Mexico, Puerto Rico, Cuba, and other Latin American countries, and leniency of U.S. policy toward their entry." (Media/scope, April 1966, p. 129)

Berelson and Steiner put it this way: "In the United States, the Japanese on the West Coast acculturated faster than the Mexicans because their occupations brought them into more contact with the larger society; because they were less numerous and hence had less reinforcing contact within their own group; because they experienced less educational segregation (on religious grounds); and because they had fewer migratory ties to the 'old country,' since it was farther away (Broom and Selznick, 1957,

p. 470)." (Bernard Berelson and Gary A. Steiner, Human Behavior, an Inventory of Scientific Findings, New York, Harcourt, Brace & World, 1964; p. 655)

Another group of authors write: "Mexico, compared with the United States, is a less technical, less scientific, less urban society and cultural values are predominantly particularistic" (i.e., concerned with obligations of friendship) and most Mexicans seldom feel societal obligations but have strong family ties and a general distrust of government and laws. (Louis A. Zurcher, Jr., Arnold Meadow, and Susan Lee Zurcher, "Value orientation, role conflict, and alienation from work: a cross-cultural study,"American Sociological Review, August 1965, p. 539-548)

Furthermore, Mexican-Americans tend to cling to Mexican culture and to Mexican customs and there is a lack of local organizations which are concerned with community problems, while neighborhood social groups flourish. (Fernando Peñalosa and Edward C. McDonagh, "Social mobility in a Mexican-American community," Social Forces, June 1966, p. 498-505)

Two agencies in Oakland are now working with the Spanish-speaking community in that city and their programs, I believe, have relevance to the implementation of the State Technical Services Act throughout the state particularly with regard to the need for and the use of materials in the Spanish language.

One of these, the Spanish-Speaking Information Center, is a War-on-Poverty sponsored agency which is working to bridge the gap between Spanish-speaking citizens and the rest of the community by offering job-locating services, classes in citizenship and in naturalization, and seminars in business planning, office procedures, bookkeeping, and the like;

by aiding qualified Latin Americans to obtain California teaching certificates; by working on the formation of a Spanish-Speaking Chamber of Commerce; and so on. It works with and through numerous municipal, civic, and cultural organizations in the East Bay area.

The other is the Oakland Public Library's Latin American Library (opened September 1[illegible], 1966) made possible by a two-year $300,000 grant under the Library Services and Construction Act. Its purpose is to acquaint Mexican-American and other Spanish-speaking citizens of Oakland with the various vocational, educational, informational, cultural, and recreational materials and services which are available through libraries. Thus to help them to take better advantage of the opportunities for self-improvement and advancement offered by the community. It expects to coordinate its efforts with the Spanish-Speaking Information Center which is only a few blocks away on the same street.

Last June, the library distributed a brief questionnaire to various Mexican-American organizations in the area to find out what types of books their members would be interested in. Seventy-nine questionnaires were returned. While it is not possible to certify anything from the results, it is interesting to see that books in Spanish were wanted more often than books in English (352 to 308), and that, while it is not surprising that classics, travel, art, religion, sports, mysteries, and biographies should be wanted more in Spanish than in English, it may be significant that technical and business books and vocational books were, too, by a small margin. (Letter dated November 8, 1966, from Miss Marian L. Trahan, Library Demonstration Director, Latin-American Library, Oakland Public Library.)

It is my understanding that Los Angeles also has a two-year LSCA

grant for the development of library service to culturally disadvantaged persons including the Spanish-speaking citizens of that city, but except that the grant is for $500,000 I know nothing about the program being developed. Every public library in the state which has Spanish-speaking citizens in its community will want to watch the progress and the results of the Oakland and Los Angeles projects and will want to be aware of the effect on library use and service of efforts made by agencies such as the Oakland Spanish-Speaking Information Center. Maybe each of these other libraries could do a little experimenting with Spanish-language materials and service on its own, in the mean time.

5. Present Resources and Services

According to reports of recent surveys made of libraries in California the resources and services presently available to satisfy the information needs of business, industry, science, and technology almost anywhere in the state are not completely adequate no matter how they are measured. But then no library ever is, to everybody. Even the world's most comprehensive research collections lack items that some specialist would consider indispensable, at least at the time he most needs them.

It is not too much to expect, however, that a state as wealthy, as enterprising, as educated, and as research-minded (and research-funded!) as California would have within it somewhere information resources that are freely available to anyone in the state and that are adequate to serve anyone's information needs. Interested on-the-spot observers have told me, though, that West Coast libraries are more likely to have odd gaps and unexpected lacks than their Eastern and Mid-Western counterparts. All the more necessary, then, that California develop a state-wide information network that can be tied in with a national one.

Almost all the librarians I talked with agreed that they were not doing as good a job as they would like to be doing in serving even the known technical information needs of business and industry in their communities. (A few felt that these information needs were, in fact, beyond not only their capability but also their responsibility, and that, in any case, they were being satisfactorily taken care of by nearby academic and special libraries.) Interlibrary loan is not always entirely helpful, either, they said, sometimes because of a subject weakness in the customary loan source (the California State Library)

and the subsequent delay in being referred to a more likely one, sometimes because of the unacceptable normal delay in loan service from any source, and sometimes because of restrictions imposed by the lending library (such as service and search charges; cost of photocopy in lieu of original material; non-lending of new, rare, or much-used material; and mail-delivery zone limitations).

Many libraries are doing excellent jobs of publicizing their resources and services, but they are not always sure of the effectiveness of their publicity particularly among the people who are normally not library users. Some libraries have attractive information leaflets, bibliographies, and topical reading lists for distribution inside the libraries or through selective mailing lists; some have newspaper space or radio time available to them. But none that I visited has a periodical publication comparable to the ones put out by the Brooklyn, Newark, Dayton, Cleveland, or Memphis Public Libraries, for instance; and I believe something like one of these would be very popular and useful in California cities.

I had not planned to check specific subject holdings of public libraries in California for two reasons: 1. Dr. Martin checked holdings of public libraries for his report and his appraisal of the overall technical resources situation certainly is conclusive enough, and 2. there was not time to prepare, distribute, check, return, tabulate, and analyze a more specific subject checklist. However, I did go over current periodicals lists of the five largest public libraries I visited and from these I compiled a "union list" of the titles in science and technology that begin with the letter "A".

Thus, I was able to check these titles in the five libraries against the titles in suitably significant lists: (1) those indexed by Applied

Science & Technology Index, Biological & Agriculture Index, and Readers' Guide to Periodical Literature; (2) those listed in Charles H. Brown's Scientific Serials (Chicago, 1956, ACRL Monograph No. 16); and (3) those included in a checklist I drew up last year to evaluate research literature resources in Canadian libraries. I also identified the titles which were unique to each library among the five. For comparison I checked these science-technology "A" titles against Stanford University's Union List of Serials Currently Received in the Science Libraries (January 1966) because (1) it could serve very well as a sample of California university library holdings in science and technology, (2) Stanford's was one of four university libraries most often mentioned as sources for science-technology research material, and (3) I had a copy.

While these figures (see Table 1) probably have no statistical validity they are, I believe, nonetheless useful to show the approximate order of magnitude of subject strengths in the several libraries. It should be pointed out, also, that the lists I used in Los Angeles, Oakland, and San Francisco were department lists and some of the titles checked may have been shelved somewhere else. By now, of course, the lists may be quite different; San Francisco's I know is (see figures for SFPL-2 in table).

Indexing and abstracting services are certainly essential in any research library. Titles of services being received in four of the large public libraries (and in Stanford, for comparison again) were checked against a list of 79 titles I drew up last year for the Canadian survey (Science-Technology Literature Resources in Canada, Ottawa, National Research Council, 1966). The California libraries compared very well

Table 1

Periodical ("A" Titles) Currently Received in Five Public Libraries

Library	Total	Uniq.	ASTI (34)	B&AI (27)	RGPL (4)	Com. (65)	Brown (133)	Bonn (39)
CSL	140	44	27(79)	10(37)	4(100)	41(63)	22(16.5)	3(7.7)
LAPL	170	47	34(100)	10(37)	4(100)	48(74)	28(21)	4(10.5)
OPL	70	10	23(68)	5(18.5)	4(100)	32(49)	9(7)	0
SDPL	90	10	26(77)	3(11)	4(100)	33(51)	12(9)	0
SFPL-1	145	32	31(91)	10(37)	4(100)	45(69)	31(23)	6(15.4)
SFPL-2	195	62	-	15(56)	-	50(77)	33(25)	-
Stanford	-	-	28(82)	15(56)	1(25)	44(68)	101(76)	26(67)

CSL: California State Library; LAPL: Los Angeles Public Library; OPL: Oakland Public Library; SDPL: San Diego Public Library; SFPL-1: San Francisco Public Library 1966; SFPL-2: SFPL 1967. Uniq.: unique to that library. ASTI: Applied Science & Technology Index; B&AI: Biological & Agricultural Index; RGPL: Readers' Guide to Periodical Literature; Com.: combined ASTI, B&AI, RGPL; Brown: Scientific Serials; Bonn: Canadian checklist; numbers in parentheses under list symbols: number of "A" titles in list (nb: two more in RGPL are already included in ASTI). Numbers in parentheses in columns: per cent of total "A" titles in list. Stanford total "A" titles and unique ones not included because multiple listings in its Union List are difficult to sort out.

with the Canadian libraries, but the likelihood of doing very extensive subject literature research in public libraries in either Canada or California is not very great, judging by the checked results.

Of the 79 services the California State Library has 17 (21.5 per cent), Los Angeles Public Library has 28 (35.5 per cent), San Diego Public Library has 18 (22.8 per cent), and San Francisco Public Library has 29 (36.7 per cent). (The best two public libraries in Canada had 24 and 17 respectively.) Stanford has 44 (55.7 per cent); only three Canadian universities had more: one had 58 and two had 56 each.

Backfiles of these periodicals and indexing and abstracting services would have to be considered, too, in making a systematic evaluation of the collections. But, on the basis of (1) these admittedly incomplete figures, (2) the Martin report appraisal, (3) the opinions of both outsiders and librarians, and (4) the reported patterns of use and referral to and from public libraries, it seems fair to state that in the subject areas of science and technology California's publicly supported libraries by themselves today are not adequate to serve the probable research needs of the state, and are barely adequate to serve the state's probable reference needs. Only a few libraries, apparently, are even attempting to serve the probable general reading needs in more than a few subject areas or at different levels of understanding. I say "probable" needs because no one knows for sure what the needs are now or what they will be later on once people realize that public libraries have the "standards" obligation and the real desire, if not yet the resources, to serve all their reading, reference, and even research needs, if not separately, then through a network of publicly supported libraries.

It is no wonder, then, that in California, as in other states,

business, industry, and non-academically-connected scientists and engineers are making increasing use of nearby college and university libraries for their technical information needs, either directly if they are close enough or indirectly through special or public libraries. Both state-supported schools and private schools are affected, service problems can be serious, and everyone acknowledges that both the pros and the cons of the matter are impressive. (For a recent discussion of "Service to industry and research parks by college and university libraries" see Natalie Nicholson's article with that title in Library Trends, January 1966, p. 262-272.)

While all California college and university libraries serve off-campus users, there are four that seem to bear the brunt of the business: those of California Institute of Technology (CIT), Stanford University (SU), University of California at Berkeley (UCB), and University of California at Los Angeles (UCLA), and each handles its industrial user requests in a little different way.

SU funnels all such requests to its library-based Technical Information Service which makes a standard charge for each transaction. (See "The technical information service in the Stanford University libraries" by Jack Pooler and David C. Weber, College & Research Libraries, September 1964, p. 393-399.) CIT gets about half its requests from its Industrial Associates, firms which make substantial financial contributions to the Institute every year and which receive certain privileges not accorded other companies such as faculty visits, technical seminars,and extensive library service. (A brochure describing the program is available from CIT's Office for Industrial Associates, 1201 East California Blvd., Pasadena 91109.) Interlibrary loan is available to others, but no other borrowing is permitted.

UCB has an established interlibrary loan and "qualified individual" (fee) loan policy for special and public libraries and a similar but slightly modified one for California institutions of higher education and state agencies. Inter-library loans are not available to libraries within approximately 50 miles commuting distance of the campus and there is a standard minimum charge per mail order for photoduplication of material not loaned. (Price lists for services are available from the Library Photographic Service, General Library, UCB, Berkeley 94720.) UCLA also has an established policy for off-campus-user service which varies a bit between public and academic and industrial libraries. Its special borrower fee is lower than UCB's but its minimum charge to industry for photocopy service by mail is higher. No loans are made by mail in the Los Angeles area. (Information on photocopying service is available from the University Library, UCLA, Los Angeles 90024.)

One other library should be mentioned here even though it is non-academic, because of its age, its strength in older technical material, its service to referred patrons from other libraries, and its inter-library loan and photocopy service (although not extensive). This is the Mechanics' Institute Library (57 Post Street, San Francisco 4) whose service primarily is to its members (but its annual dues are low). It is also one of the few non-academic libraries open on Sunday (1 to 5 p.m.) and from 9 a.m. to 10 p.m. on other days. (Its chessroom is open even longer!)

All these libraries, and some others such as those of the University of Southern California, the University of California at Davis, and perhaps the California Academy of Science, will have to be reckoned with in planning and building a technical information network in California. It

will be costly and extremely difficult, if not impossible, to duplicate the research holdings of any one of these libraries in any form, and yet without such holdings available a state technical information network cannot exist.

Special libraries, too, should be taken into account when considering technical information sources available to business, industry, and the inquiring citizen even though they are set up primarily to serve the information needs of their companies. Most of them will make part or all of their resources available to outsiders through interlibrary loan and telephone reference service, and, on occasion, to qualified users directly by special arrangement. However, they usually are not geared to service the public, but neither are they in any way obligated to, excepting as they may be prompted by the traditional interest in good public relations or by a special sense of propriety.

Thus in some respects the recently organized voluntary cooperative group of Associated Science Libraries of San Diego, while certainly exemplary, is also a bit unusual in that 19 federal, state, city, and private organizations (college, university, industry, research center, and public libraries) have banded together "specifically to facilitate interlibrary loans, exchange information about collections, bibliographic assistance, study privileges to visitors, and referral services." Elsewhere in the country (and in California) many such libraries are becoming more restrictive in their services and are trying to discourage virtually any use by unentitled patrons. Even more unusual perhaps is the San Diego area Library Directory published by Community Educational Resources which lists four science resource-location specialists and county, municipal,

college, university, and special libraries in the San Diego area which have agreed to make available specialized material to school and other local libraries for the use of any student or library patron.

The San Diego library co-op should stimulate the growth of similar groups of technical libraries in other cities of the state, and its activities will be watched with great interest. Such mixed co-ops may be the instrumentality by which special libraries are brought more formally into the state's technical information network and they would stand to gain financial aid in proportion to their participation in the information network program, the same as any other library. (Bill Woods mentions a number of arrangements which include special libraries in his article "Regional and national co-ordinating and planning for library service to industry" in the January 1966 Library Trends, p. 295-305.)

Other existing and planned regional library systems and their related information services are now (or soon will be) serving reading and reference needs of several California communities through central resource libraries and, if need be, then through interlibrary loan from the State Library or from elsewhere. Serra, based on San Diego Public Library; San Joaquin Valley, based on Fresno County Free Library; and the proposed 49-99 Cooperative Library System, based on Stockton-San Joaquin County Library, are examples. The San Joaquin Valley Information Service, for instance, offers a variety of information services besides free telephone reference service to its six member libraries. Most of the requests for information are in the areas of business-industry and science-technology even now; such systems become natural tie-ins with a state technical information network.

The Sunnyvale Patent Library, administered by the Sunnyvale Public

Library, is one of two U.S. patent depository libraries in the state (the other is in the Los Angeles Public Library), but it is unique in that the patents are arranged by subject or class rather than by number as they are in all other depositories outside the Patent Office itself in Washington, D.C. At present the collection consists of all U.S. patents issued since January 1962, a complete set of Official Gazettes dating from 1854, the Manual of Classification of Patents, and all necessary indexes and definitions. Efforts are being made to extend the collection back as far as possible, probably on microfilm. While its use so far has been moderate (it is half way through a two-year trial period), its arrangement and its location make it worth considering as a part of a state technical information network.

6. Excerpts and Summaries: A Pertinent Literature Interlude

It is both rewarding and disillusioning to find that a number of books and articles in print corroborate many of the opinions, statements, and conclusions I have set down in this report: rewarding because their authors are very good company to be in, but disillusioning because they needed to be written in the first place and apparently have had little effect on librarianship and the library world for whom, presumably, they were written in the second.

Here are excerpts and summaries from those works which I believe are particularly significant for the purposes of this report:

"As a source of information, the public library has little reality for most people." (p. 18)

"The most significant factor in the use of libraries by adults is education." (p. 50)

"In most cases adults use it for fact-finding questions - only rarely for research investigations." (p. 86)

"The major dissatisfaction centers upon inadequacy of the book collection, rather than upon deficiencies in library policy or personnel. ....These studies also indicate that the general public has little knowledge about the public library and its services and seems to regard the public library as a fine thing for a community to have - for other people to use." (p. 87)

"Library users, whatever their number, are by no means a cross-section of the population. ....those who live near the library use it a good deal more than people who have to travel far to reach it. ....the actual use of the 'typical' library is highly concentrated among relatively few of its clientele." (p. 125-127)

"A plausible argument can be made that under present conditions the public library clientele must be small and that the library should be organized for those relatively few people in the community who can make 'serious' use of library materials." (p. 130)

"The library's problem is a problem of optimum allocation of resources. ....Since it cannot be all things to all men, it must decide what things it will be to whom. ....Librarians have the problem of designating the library's publics to whom more and less consideration will be given. It is a matter of ranking the library's actual and potential publics in a value hierarchy." (p. 134)

---- Berelson, Bernard. The Library's Public. New York, Columbia University Press, 1949.

"Moreover, after studying the statements of library objectives and examining some important library surveys, I conclude that they do not understand the basic economic fact that they have limited resources and consequently must assign priorities to the various kinds of services they wish to offer. It is simply impossible for the library to do everything at once. It cannot serve all the people in the community and do any of them justice." (p. 30)

---- Ennis, Philip H. "The library consumer" in Conant, Ralph W. The Public Library and the City. Cambridge, M.I.T. Press, 1965.

"The public library has more users and more money today than ever before, but it lacks a purpose." (p. 102)

"The proper business of the public library is with the serious reader and - assuming that the library cannot be an effective instrument for

educating the lower class - with him alone. ....The common-sense assumption is that all serious reading confers some benefit upon the community." (p. 109)

"Some Illustrative Ideas. 1. Provide soundproofed cubicles that readers may rent by the week or month.... 2. Offer the services of a 'personal shopper' to take orders by phone and to arrange home deliveries and pickups. .... 3. Buy a large enough stock of serious books.... 4. Display prominently, and review in library newsletters, those current books that are not widely reviewed by 'middle-brow' journals. .... 5. Maintain up-to-date, annotated bibliographies of the sort that would help introduce a layman to a specialized field. .... 6. Offer tutorial service for readers who want instruction or special assistance. .... 7. Have a mail-order counter.... all books in print, ... government publications, ... used and hard-to-find books." (p. 111-112)

---- Banfield, Edward C. "Needed: A public purpose" in Conant, op. cit.

"'Most urban libraries simply do not have enough stock to meet the metropolitan needs now forced upon them.' .... 'The suburban libraries are unable to afford the more technical reference and research materials even though the type of residents of the suburban area dictates that such materials be obtained.' .... It is difficult for the general public to understand that a large public library with a number of volumes approaching a million is woefully short of materials." (p. 136)

---- Cushman, Jerome. "Reflections of a library adminstrator" in Conant, op. cit.

"It seems to me that seven salient questions became quite clear but

were not answered during the conference. The first question is: What is the job of the metropolitan public library? .... The second question: How much sharper should the definition of present missions be? .... there should be priority rankings.... the idea of being all things to all people was no longer very acceptable even to directors of libraries. This wasn't denied very often." (p . 190-191)

---- Burchard, John E. "The critic speaks" in Conant, op. cit.

1. Large government information programs are used mostly by librarians (who know about them) on behalf of their scientist-engineer patrons (who do not ; only a minority of scientists and engineers use them directly.

2. Information products and services are used when they are broadly and frequently publicized by the libraries, but are not used when they are merely established and permitted to sit and wait for customers.

3. "The prime beneficiaries of information network schemes that have been advanced are the large libraries and large organizations. .... This problem of reaching organizations that have no personnel or mechanism for collecting, organizing, and disseminating potentially useful sources of information could prove to be the stickiest part of the national information picture."

4. Of 400 small- and medium-sized manufacturing firms visited (during a study of their technical information use and problem-solving techniques) practically none had any sort of library or even received technical publications, nor any technically trained personnel to read them if they did receive them.

5. The primary source of useful technical information and solutions

to problems (among the 400 firms) was the basic manufacturers that supplied the raw materials, each of whom had a well-organized salesman network of information services to handle questions and problems even in unrelated fields.

6. What a network can do: 1. let small libraries know what its products and services are; 2. show these libraries how to acquire and make use of these products and services; 3. make sure that it is responsive to the needs of small libraries and of their clientele. The field representative or sales engineer who visits client libraries and organizations without libraries is one of the best means of ensuring that the network concept reaches every potential client regardless of type or degree of his need or his level of technical sophistication. "Far more important than how our library resources are connected is what goes through the lines and how it is used."

---- Herner, Saul. "The place of the small library in the national network." Journal of Chemical Documentation, August 1966, p. 171-173.

"Implications of user studies. 1. Principle of least effort. People, in general, expend as little energy as possible in pursuit of their particular goals. We would not expect people to significantly depart from this behavior pattern when seeking scientific and technical information." (5 studies)

"2. Resistance to change. Except in cases where a man is highly motivated, changes in his behavior occur rather slowly." (4 studies)

"4. Research scientists prefer to do their own searches. Most

research scientists presently prefer to do at least part of their own searches and request or require hard copy." (8 studies)

"10. Awareness of information services. Many users are unaware of information sources, how to utilize them or what services are available to aid them with their problems." (5 studies)

"11. Quality of services. The user is often disappointed with the quality of service rendered by libraries, information agencies, and their associated personnel. Collections are sometimes inadequate." (11 studies)

"13. Foreign publications. Users frequently find difficulty in obtaining foreign documents and translations of these foreign publications." (3 studies)

"14. Oral communication. Oral communication plays an important role in the dissemination of scientific and technical information." (11 studies)

---"Review of user studies." Section 8 in <u>Recommendations for National Document Handling Systems in Science and Technology</u>. Committee on Scientific and Technical Information, Federal Council for Science and Technology. Washington, CFSTI, 1965. PB 168 267

"The industries that depend so heavily on brains make extensive use of libraries in the communities in which they are situated, insofar as these libraries can be made available to them. .... The university library in an urban setting has learned that it owes certain services, direct or indirect, to research interests in the wider community, just as it does to its traditional clientele - its students, faculty, and researchers.

Yet it has also learned, or has been forced to recognize, that it cannot serve as a kind of public library and grand central special library and also take care of its more immediate needs on campus." (p. 563-564)

---- Moore, Everett. "Anticipating demands of the future on the urban university library." Library Trends, April 1962, p. 562-570.

"But in the small town in which the academic library may find itself, it is foolish for the public library to try to compete with the academic library by trying to match its collection. The academic library should serve the public's need for the uncommon book. Geographical location determines the obligation. .... In any community an institution cannot ask for gifts from within the community without expecting to be obligated to repay them with knowledge in the form of library or other services." (p. 486)

---- Smith, Donald T. "Service to alumni and to the general public." Library Trends, April 1962, p. 482-487.

"Twin problems in trying to meet the nation's needs in science and technology revolve around library staff: staff shortages and staff training.... The latter is complicated by what appears to be an aversion or disinterest on the part of many library generalists to those aspects of public library service which relate to science and technology. .... Where selection is a single person's responsibility, and this is the case in by far the largest number of public libraries in the United States, it is apt to be unconsciously affected by three factors: 1) public demand;

2) cost of individual titles; and 3) personal interests of the library staff. All three of these appear to work simultaneously and disadvantageously in the consideration of scientific and technical books." (p. 2418)

---- Vainstein, Rose. "Science and technology, their impact on public library resources and services." Library Journal, July 1961, p. 2417-2424.

"Our own experience and what evidence there is shows that the heaviest industrial users of public library science-technology services appear to be company special libraries. .... It is probable that few engineers and scientists, even in the largest cities, have any idea of the resources available to them in good, public library science-technology departments. .... If this impression is accurate, then it is the staff of the science-technology departments themselves who are at fault for failing to inform their industrial constituents about what the library has to offer by insufficient use of library public relations offices. .... It is probable, moreover, that there are public librarians, who do not believe that their function is to serve industry. The deficiencies revealed in this survey, the tenor of library literature, and the historical emphasis of the majority of American public libraries would seem to imply this. .... Although American public library service to industry may be of age in years of existence, it is for the most part, still adolescent in scope and enthusiasm." (p. 254-257)

---- Pfoutz, Daniel R., and Cohen, Jackson B. "Service to industry by public libraries." Library Trends, January 1966, p. 236-261.

"While the other campuses seek relative self-suffiency and the Donahoe Act legitimizes the faculties of other state colleges as borrowers, a larger public looms. The Report of the Legislative Analyst on the 1966/67 budget said: 'The University Library System exists not only to serve the educational needs of students but also is the major resource center in the state for research not only by resident faculty plus faculties from other higher educational institutions, but also for industry and other community users.'" (p. 4)

---- Coney, Donald. "Report of the University Librarian 1965-66." CU News, 19 May 1966, Appendix.

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7. A Technical Information Network for California -- Conclusions and Recommendations.

Library use studies and experience have shown that only the indomitable, determined, technical-information seekers and the dedicated special librarians and professional literature searchers will go to any trouble at all (or to any distance) to get information. The vast majority of people, including those in business and industry, who may have real need for information, and may even know they do, will go only so far (in trouble or distance) to get it. This limit is soon reached. Any plan for technical information service will have to recognize that these differences exist and will have to arrange to serve both the many and the few.

Extraordinary attention will have to be paid to the resources, the facilities, and the personnel in all local libraries which serve as contact points for business and industry. Not that they should be so numerous but that they should be well selected and appropriate to the all-important task of convincing the patron, whatever his needs are, that the library can truly be of help to him either immediately or within a reasonably short time. The success or failure of any statewide information network may well be determined at the very point where the patron with an interest in technical information first comes in contact with library service, whether it be a municipality's main library, a regional library, or selected neighborhood branch, or a comparable county library.

Each local service-contact library must have a basic common core collection of selection tools, reference works, indexing services, and government publications covering all fields of business, industry, science, and technology. This collection need not be large or highly technical. It must be authoritative, however, and it must acquaint the searcher (or patron) with advanced and more specialized materials, in the subject or research

center libraries perhaps, if the patron feels he needs them.

Besides the common core collection each local service-contact library will need a topical collection to support particular local interests and information needs: specialized selection tools, reference works, indexing and abstracting services, and government publications; and both general and specialized periodicals, circulating books, and other materials (e.g., AV,VF). Obviously no two local topical collections will be totally alike, in size, scope, or depth, but they, too, should be authoritative and should acquaint the patron with advanced and more specialized materials elsewhere if he feels he needs them.

The facilities in local service-contact libraries should include an adequate number of photoduplicating machines, microform readers and printers, and comfortable, quiet, well-lighted study areas for patron use, and an adequate number of machines, devices, and telecommunication instruments (telephone, teletype, and, eventually, telefacsimile and access to a central computerized data bank it if seems useful) for library use whenever necessary.

But more important than resources or facilities in service-contact libraries will be the personnel, especially the reference staff who deal directly with the people who turn to the libraries for information or reading material in business, industry, science, or technology. They must be good reference librarians, of course, and they must be adept in dealing with skeptical, reluctant, confused, and often vague individuals. Each one must be able to extract from the patron his exact problem, to interpret that problem exactly and in context to a subject or research center if necessary, and to interpret the answer to the patron when it is found. Each one must be able to judge both the level and the amount of

understanding the patron has of his problem, of the literature he reads on it, and of the solution either he or the library staff finds. Each one must be the liaison between the library and its business and industrial community, he must know this community well, he must help in the development of the subject collections of the library to better serve the needs and interests of this community, he must know the other sources in the community (and in the area) to which he can turn if need be for specialized technical information not otherwise readily available, and he must know where, when, and how a patron should be referred for advanced or more specialized material.

Perhaps what I am saying is that it is people - librarians - who give service, not resources, libraries, systems, or networks.

II.

Since all subject centers will also be local service-contact libraries for their own communities, the same amount of attention will have to be paid to their resources, facilities, and personnel. All of them will probably be the central libraries of systems (city, county, region, information service) and all of them will serve the advanced and locally odd reading and reference needs of its member libraries and of their more motivated technical-information-seeking patrons.

Each subject center must have, then, the basic core collection common to all local service-contact libraries plus an advanced common core collection suitable to its position as a district reference center. In addition, of course, it will need a topical collection appropriate to the interests and needs of its own local community and, to the extent that advanced works should be available regionally, of its district.

Each advanced core collection should include all periodicals indexed by the basic core indexing services (current subscriptions and substantial backfiles), the major indexing and abstracting services in English, the major subject literature guides, the major subject reference works, and ample holdings of government publications (U.S., California, U.N.) including the important indexing and abstracting serials.

Facilities and equipment will have to be adequate to handle local as well as system-generated business. The reference staff will have, in addition to its service-contact library responsibilities, the job of liaison and coordination with the reference librarians in the district member libraries in such matters as union lists, district news letters, training programs, and interlibrary reference and referral procedures.

III.

Each research center in the network is expected to serve a large area of the state as a super-library, as a center for consultation of specialized materials, as a source for interlibrary loan, and for interlibrary reference. Each will be, as well, the subject center for its own district and the local service-contact library for its own local community, so, again, proper attention will have to be paid to its resources, facilities, and personnel to ensure good service where it is most effective, at the point where business and industry first come in contact with library service.

To me, a research library is one in which a serious patron can expect to find supporting evidence in depth and breadth on a wide range of topics within the scope of the library's announced interests. Thus, he should expect to find comprehensive, international, well-organized

subject collections of both up-to-date and retrospective material, current issues and extensive and complete backfiles of both general and specialized journals, subject treatises, encyclopedic works, compilations, research monographs, dictionaries, and the necessary bibliographies, reviews, and indexing and abstracting services to exploit the collection thoroughly and effectively.

Several of California's academic institutions have internationally known research libraries, including a number in the areas of business, industry, science, and technology. Some public libraries have research collections in certain areas: California State Library in government publications (U.S., California state, California local); Sutro Library possibly in local history and genealogy; Los Angeles Public Library in U.S. patents (but collection is numerical, not classified) and, I am told, to some extent in history and sociology; and perhaps one or two others in special areas, but none that I am aware of in business, industry, science, and technology. True, there are some strong and growing collections in these subject areas but even the strongest is not yet of real research caliber in a number of aspects; for instance, foreign materials, indexing and abstracting services, journals, and total volumes. Nor are there any libraries in the state open to the public that compare with Linda Hall in Kansas City or John Crerar in Chicago. It is not surprising, therefore, that one special librarian (serving a number of aeronautics firms) can find only 4 per cent of her technical literature needs in a public library of California.

It is difficult and perhaps even unfair to be too specific, but it may be useful to see what it would cost to increase just periodical

holdings in science and technology to research library proportions. There are about 5,000 entries in The Union List of Serials Currently Received in the Science Libraries at Stanford University. There are some duplications of titles, but there also are some omissions, particularly of trade journals and of titles held in the general collection, so 5,000 is probably close enough. (For comparison, Carnegie Library of Pittsburgh receives about 4,000 titles in both physical and biological sciences and technology; and New York Public Library currently receives about 4,500 titles in only the pure and applied physical sciences and in only Western European languages and not including national or state academies.)

At an average annual subscription rate of $20 per volume (the Harvey Mudd study, A Joint College/Industry Library with Automata, 1964, uses this figure) - and many journals manage to put out four or more volumes per year - these 5,000 titles will cost at least $100,000 a year. For an average backfile of 25 years at an average cost of $25 per volume (not year), the holdings of each title will cost at least $625 ; 5,000 will cost at least $3,125,000. Put another way, each 1000 new subscriptions will cost at least $20,000 and each 1000 new 25-year backfiles will cost at least $625,000 . It is only in multiples of 1000 titles that even the three largest publicly supported libraries in California will be able to reach research library status in science and technology within a reasonable period of time, and then only with respect to periodical holdings. The cost of necessary monographs, treatises, bibliographical tools, and other research materials would be additional.

It must be pointed out, too, that considering the possible differences in research interests throughout the state (now or later on) these 1000-journal-title increments would likely not all be the same in each research

library, so considerable professional selection would be in order in each library. Since this selection will be required anyhow, and if no time limit were put on the development program, it might be less financially shocking to spread the 1000-title increments among all three libraries in any one year or over several years for any one library. But the total cost will be the same (unless prices continue to rise).

To get started, however, in order to build a broad research base on which to develop subject research strengths, a core science collection could be organized around the 613 titles listed in Brown's Scientific Serials; a core technology collection could be organized around ACRL Monograph No. 9 (A Recommended List of Basic Periodicals in Engineering and the Engineering Sciences, Chicago 1953; 553 titles); and a core business-industry collection could be organized around the 1000 or so titles indexed by Public Affairs Information Service Bulletin. The lists must be updated because a number of the titles have changed; but the types of journals included are still suitable. And there are duplications among the three lists.

It is apparent that in California today only the major academic institutions have libraries of research caliber in areas of interest to business, industry, science, and technology. It also seems to be true that, in spite of being gradually maneuvered into giving more and more service to the otherwise disadvantaged technical-information seeker, these academic libraries are usually reluctant and often unable to give such service simply because their primary, if not sole responsibility, is to their own institutions and many of them are having enough trouble with this responsibility without taking on any more. Most of them just do not

have the resources, facilities, or staff to give the kind of service needed by the State's business-industrial-technical community.

Under these circumstances the wisest thing to do is to authorize the California State Library (1) to encourage public libraries throughout the state to become fully informed about the technical information needs of their communities; (2) to publicize extensively throughout the state the technical information services that are (or will be) available from and through local service-contact libraries, making full use of newspaper and periodical articles, radio and television announcements and programs, audiovisual presentations, printed material for mailing-list and in-library distribution, and personal talks before large and small groups of actual and potential patrons; (3) to recruit and to train personnel for technical information service at all levels in the public library information network; and (4) to investigate the possibilities of various contract arrangements whereby a public library, a system, or the whole state network agrees to pay one or more academic institutions (public or private) for technical information services rendered (1) on a transaction basis, (2) on a calendar basis, or (3) on a reciprocal basis. Such arrangements could operate locally between a public library and a university (as in Durham, New Hampshire; Library Trends, January 1965, p. 279) or at the state level between the State Library and, for example, the University of California system, other California state agencies (geology, highways, resources), or out-of-state agencies. One-time or periodic development grants from the library or the network would encourage institutions to strengthen their resources to better serve the state's technical information needs, as well as their own.

Similarly, a contract-and-grant arrangement could be made between a public library, a system, or the whole state network and any other library, industrial, institutional, federal, or association. Such formal measures would (1) draw more resources into the information network, (2) aid the development of specialized and auxiliary collections, and (3) give a more realistic picture of what technical information costs as well as what it is worth.

These arrangements could be continued indefinitely or they could be gradually phased out as the network became more self-sufficient or as the participating libraries got busier with their own patrons.

A record of the titles requested from libraries outside the state public information network would help determine what would be added to the network's research centers. If requests are scattered, the material should be placed in all three libraries; if localized, then in the nearest one. Items considered important but requested only infrequently should be added to the State Library collections.

Thus, during the years ahead California will be able to serve the technical information needs of all her citizens effectively and at a known least cost, and at the same time she will be building up technical information research resources strategically about the state with the more specialized materials slowly being concentrated in the State Library.

The California State Library, in addition to operating as the major special resource center among the public research libraries, would also

have the responsibility (1) to coordinate service and services throughout the information network; (2) to recommend, train for, and help establish policies and procedures; (3) to encourage, promote, and help develop statewide bibliographical control tools, union lists and the like, and statewide publicity and public relations aids aimed particularly at the business-industry community; (4) to recruit and help train librarians to be liaison between the libraries and the business-industry communities at all levels throughout the state; (5) to study and to improve network and library service at all levels; and (6) to engage in research on methods, equipment, and bibliographic resources to make the information network more effective.

Activities and areas of interest in which the State Library could well take a leading part include the following:

1. The establishment of new technical book examination centers in, say, five locations throughout the state where engineers, scientists, the interested public, and librarians could browse and could examine books for possible purchase for home use or library use. Traveling examination centers, in addition, could visit other areas of the state on a regular schedule, quarterly, perhaps. Publishers of technical books and technical book dealers in California should be invited to participate in the program.

2. The establishment of state publication distribution and sales

centers in different parts of the state where California state publications would readily be available to the public and to interested librarians as soon as they are published. Perhaps federal publications, California local (city, county, area) publications, and related material could also be made available through such outlets.

3. The encouragement of industry to turn over backfiles of technical journals to local libraries for storage and servicing. While this is a local matter it could be encouraged statewide.

4. The development of bibliographic center services in the research centers: literature searches, preparation of bibliographies, evaluation of both the literature and reference sources, translation service (using retired university professors, for example), annotations and abstracts (again using retired university professors), current awareness service (based on interest profile of users), annotated new book lists (reference works, general works, etc., even periodicals), and other services as requested from time to time. Already existing commercial services should, of course, be considered if thought suitable to needs.

5. The encouragement of federal government efforts to expand and improve technical information service nationwide, including the distribution of U.S. government publications, their better indexing, and speedier handling.

IV.

1. As part of the statewide information center network (structure, services) recommended by the Martin report, resources, facilities, and staff should be developed to serve the technical information

needs of California business and industry and scientists and engineers who are not served elsewhere.

2. Levels of service are suggested: local service-contact libraries, subject (reference) centers, and research centers; but it must be remembered that local library service will have to be available in all subject centers, and subject center service (including local) will have to be available in the research centers.
3. Special attention must be given to the type and training of personnel in all local service-contact libraries that serve business and industry.
4. Resources in local service-contact libraries should include a basic common core collection plus an individualized topical collection based on local needs.
5. Resources in subject centers should include the basic common core collection, an advanced common core collection, and an individualized topical collection based on local and district needs.
6. Resources in research center libraries should include both the basic and the advanced common core collections plus the research materials necessary to serve the technical information needs of the region and of the state.
7. Facilities and procedures should be appropriate to the services given.
8. All local libraries which serve business and industry and all subject centers should be encouraged and financially aided to develop their resources, facilities, and staffs as suggested above, provided that they agree to serve in these capacities.

9. The development of research center collections should proceed in steps:

   a. A list of journals and other research materials for a research library (business, industry, science, technology) should be drawn up.

   b. A list of items most frequently requested from university libraries in California should be drawn up and consolidated with the foregoing list.

   c. The titles on the consolidated list should be voluntarily apportioned or duplicated among the research centers.

   d. Determine total costs of items on consolidated and apportioned lists and establish a maximum feasible annual budget for purchase of the materials over five, or if necessary, ten years.

   e. Confer with academic, special, and other technical libraries in the state to work out with them equitable contract arrangements for statewide technical information service at the research level.

   f. Keep records of items requested from contract and other non-network libraries and feed them back into the annual purchase plan (d, above).

10. The California State Library should coordinate, encourage, help develop, and study service, bibliographic aids, procedures, and personnel throughout the technical information network with a view to constant improvement. In addition the State Library should interest itself in the establishment of new technical book examinations centers, of state publication distribution and sales centers, and of bibliographic-center

services. It should also do what it can to encourage federal and industrial participation in developing technical information resources.

GLOSSARY

AEC	U.S. Atomic Energy Commission
ALA	American Library Association
ASA	American Standardization Association
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing Materials
AV	Audio Visual
Battelle	Battelle Memorial Institute
Brookings	Brookings Institution
CFSTI	U.S. Clearinghouse for Federal Scientific and Technical Information
CIT	California Institute of Technology
Clearinghouse	See CFSTI
Davis (UC)	University of California at Davis
D.C.	District of Columbia
DDC	U.S. Defense Documentation Center
DOD	U.S. Department of Defense
Edison Electric	Thomas A. Edison Industries
GPO	U.S. Government Printing Office
ISO	International Standardization Organization
John Crerar	John Crerar Library, Chicago, Illinois
Library Services and Construction Act	Public Law 89-511
Linda Hall	Linda Hall Library, Kansas City, Kansas
LSCA	See Library Services and Construction Act
MEDLARS	A computarized citation service for Index Medicus in the biomedical published literature.
Martin report	California. Statewide Survey of Public Library Service. Public Library Service Equal to the Challenge of California, by Lowell A. Martin and Roberta Bowler. Sacramento 1965.

NAL	U.S. National Agricultural Library
NASA	U.S. National Aeronautics and Space Administration
NELA	National Electric Light Association
NEMA	National Electrical Manufacturers Association
NLM	U.S. National Library of Medicine
NSRDS	National Standard Reference Data System
P.R.	Public Relations
R&D	Research and Development
SBA	U.S. Small Business Administration
SR&DS	Standard Rate and Data Service
SU	Stanford University
Sweet's Files	Sweet's Catalog Service (Architectural Catalog File, Etc.)
Thomas' Register	Thomas' Register of Manufacturers
TUD	U.S. National Aeronautics and Space Administration. Technology Utilization Division.
UCB	University of California at Berkeley
UCLA	University of California at Los Angeles
U.N.	United Nations
U.S.	United States
VF	Vertical File

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