

third, the thirty-three Divisions of the Corporation located all over the world. Using communications terminology, the GMR Library serves as a "switching function" between the needs of a substantial portion of the Corporation's literature users and the library community. (For descriptions of the GMR Library and the Corporation's "library system," two earlier articles may be read.⁷⁻⁸) Further, it serves as a switching function between these users and the documentation services of the Department of Defense, Atomic Energy Commission, and others. This last function is also exercised by certain Division library services having broader access to more highly classified military documents than the "need to know" of the Research Laboratories permits; see Fig. 1.

It seems inevitable that there is a triangle associated with the availability of information to an industrial firm. At the apex is a small area representing material physically located at a given location; below this, there is an area larger in size representing material elsewhere in the Company; and finally the far larger area in the remainder of the triangle represents the material available on the outside. Interlibrary loan is the catalyst that permits a decentralized industrial library system to work under these circumstances.

Although the accurate keeping of statistics suffers by the pressure of business to get the job done, the figures on interlibrary loans (*from* non-GM Libraries) and interloans (*to* other parts of the Corporation) are more accurate than most which were kept. Table 1 shows that they have been fairly constant at the respective levels of 1,100 interlibrary loans and nearly 6,000 interloan requests per year during the period 1957 to 1964.

As interloans initiate a certain percentage of GMR interlibrary loan requests, they will be considered first. It is to be noted that Table 1 excludes all activities contiguous to the Research Laboratories, as employees of a transportation manufacturer are highly mobile and accustomed to taking advantage of "cafeteria" service of the kind offered by GMR Library. On the other hand, photocopies and duplicate periodical issues mailed in response to a preprinted American Library Association Interlibrary Loan form from a distant Corporation technical literature activity are easily included in statistics and form the main source for Table 1.

The implications of Table 2 seem to be that there is a broad scatter of technical literature needs throughout the Corporation, that those Divisions manufacturing accessories for inclusion in the Corporation's

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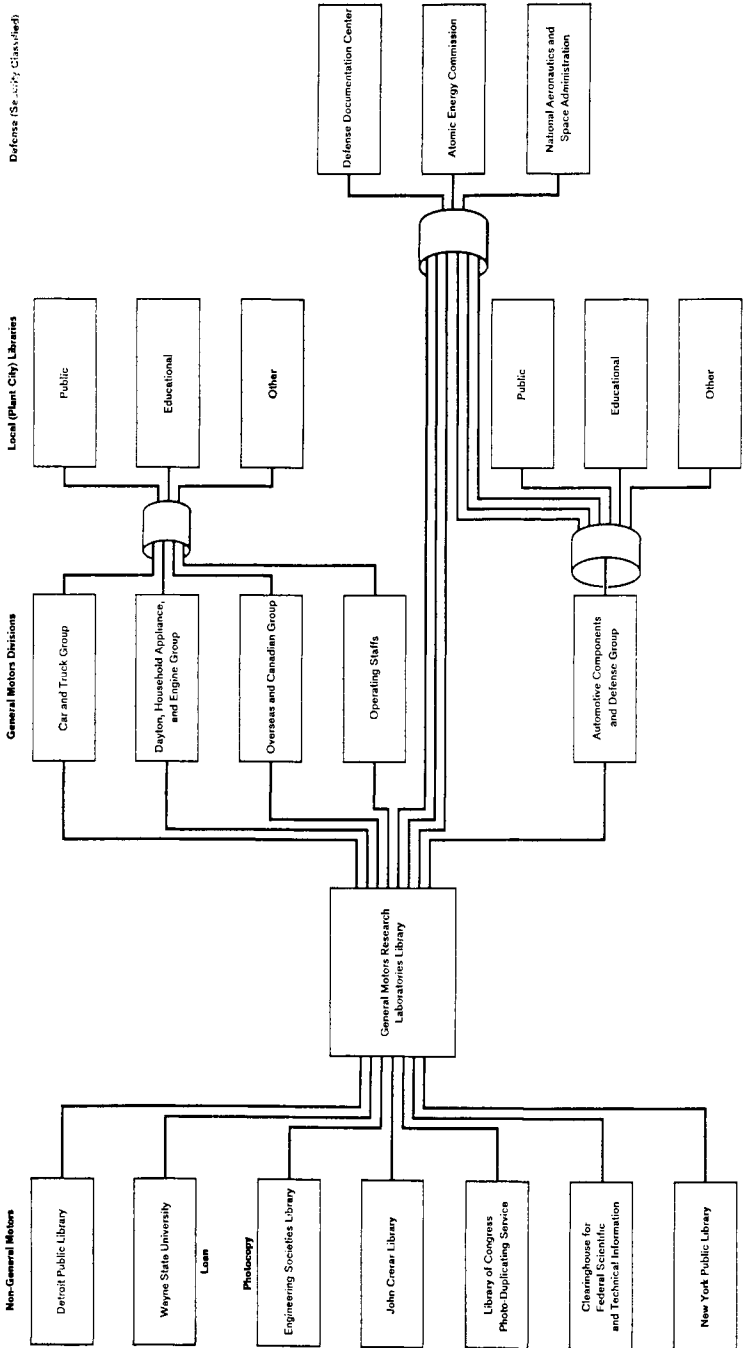


Figure 1. Technical Literature Sources Utilized by General Motors Corporation.

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assembled products have engineering problems susceptible to literature-aided solution, and further that transfer of Research Laboratories' staff members to Divisional positions is reflected in the figures.

TABLE 1
Total GMR Interloans and Interlibrary Loans, 1957-1964

<i>Activity</i>	1957	1958	1959	1960	1961	1962	1963	1964
Interloans sent	4,750	5,056	6,368	6,615	7,180	4,975	5,515	6,565
Interloans returned for direct procure- ment				230	350	500	405	325
Total interloans handled	4,750	5,056	6,368	6,845	7,530	5,475	5,920	6,890
Interlibrary loans requested	1,125	1,310	1,027	1,215	1,050	870	1,130	1,205

TABLE 2
*Major Users of GMR Interloan Services
(Excluding All Technical Center Site Activities)
1957-1964*

<i>Major Users</i>	1957	1958	1959	1960	1961	1962	1963	1964
DHA&E Gp Div 1 ^a	12%	12%	11%	10%	6%	5%	5%	10%
C&T Gp Div. 1 ^b	0	2	2	1	1	3	7	8
O&C Gp Div 1 ^c	1	1	1	3	5	8	8	5
AC&D Gp Div 1 ^{d-e}	1	3	3	4	7	7	3	5
AC&D Gp Div 2	5	2	1	1	1	3	1	4
AC&D Gp Div 3	1	3	5	8	10	11	7	4
DHA&E Gp Div 2	13	8	8	7	5	4	3	4
AC&D Gp Div 4 ^d	10	12	10	6	4	7	5	3
C&T Gp Div 2	5	4	4	2	2	3	3	3
AC&D Gp Div 5 ^d	8	11	12	10	5	4	5	3
OPER STAFF 1 ^f	1	3	3	2	2	2	4	3
C&T Gp Div 3	4	1	2	2	2	1	2	2
All other divs. and staffs	39	38	38	44	50	42	47	46
Total	100	100	100	100	100	100	100	100

^a DHA&E Gp Div = Dayton, Household Appliance and Engine Group Division.

^b C&T Gp Div = Car and Truck Group Division.

^c O&C Gp Div = Overseas and Canadian Group Division.

^d Have now or at one time had professional librarians in the Division.

^e AC&D Gp Div = Automotive Components and Defense Group Division.

^f OPER STAFF = Operations Staff activity.

The growth of interloans has been subject to restraints imposed by the staff and budget limitations of the GMR Library. This is understandable in view of the Library's organizational status as one department in a staff activity of this decentralized corporation, having

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no line relationship to the other libraries or technical literature activities in General Motors. Divisional cooperation in keeping the interloan totals down has taken such forms as establishment of photocopy accounts at principal outside technical libraries, assumption of photocopy costs for materials in the GMR Library collection, granting authority to charge the Division with literature procured to handle its requests, and willingness of a Division to procure its own literature after GMR Library verification of bibliographic references.

It will be recalled that Table 2 excluded any usage from other activities at the Technical Center site. To gain some idea of the division of staff time among other company activities, the GMR Library Staff maintained usage statistics for July-August 1964 and in November 1964 for the purposes of the present article. Records kept were of three kinds. First were the substantive reference questions answered by telephone; these questions were defined as those requiring some subject competence and required more than twenty minutes each to answer. Second were locative reference questions answered by telephone; these were the simple factual directory or handbook type and involved less than twenty minutes to answer. Third was a count of material circulated outside GMR during these periods on specific requests. Table 3 shows the results of these studies and of a similar one done in May 1957 at the request of the GMR administration.

Some implications of Table 3 are that the nearby technical personnel freely call on the GMR Library for factual information, but that equal quantities of material have to be circulated to the two groups to handle their combined reference inquiries. The encouragement given at the annual meeting of the GM Committee on Technical Literature, to use local city resources, appears to be effective for locative type reference questions. Proprietary considerations insure that crucial substantive reference questions are answered within the Corporation's resources. (Each of the above mentioned annual meetings has included a presentation by a major official of the public library in a city where General Motors has facilities, with mutual benefits to participants.)

The all-important 1,100 items borrowed on interlibrary loan will be considered next. These are largely for material required by the professional staff members of GMR. The mechanics are that the loaned items are picked up on a daily messenger trip to the city of Detroit's Cultural Center. The GMR messenger picks up at the same time interlibrary loans for other Technical Center site activities that have

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been telephoned in by their librarians or technical literature specialists but they do not appear in these tabulations.

The results shown in Table 4 were as expected inasmuch as the scientists normally require literature broader in scope and of more depth than engineers. The mathematical scientists are few in number but are avid literature users, even though the GMR Library's mathematical collection was not as large as for other fields.

TABLE 3
Comparative Usage of GMR Library by Non-GMR Personnel

<i>Types of Use</i>	<i>1957 May</i>	<i>1964 Jul.-Aug.</i>	<i>1964 Nov.</i>
Substantive reference questions	(N = 25)	^a	(N = 99)
Non-tech. center site	28%	66%	37%
Tech. center site	60	34	57
Non-GM	12		6
Locative reference questions	(N = 183)		(N = 318)
Non-tech. center site	20	24	27
Tech. center site	70	76	69
Non-GM	10		4
Material circulated	(N = 181)		(N = 535)
Non-tech. center site	17	49	48
Tech. center site	75	48	51
Non-GM	8	3	1

^a Number of transactions is not available for this period.

TABLE 4
Origin of 577 Interlibrary Loan Requests

<i>Origin of Requests</i>	<i>313 Requests for Period ending Nov. 1, 1964</i>		<i>264 Requests for Period ending May 31, 1965</i>	
	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>
GMR Executive Office	—	1	4	9
GMR Engineering Research Depts.	19	58	26	68
GMR Basic and Applied Sciences Depts.	37	116	41	110
GMR Mathematical Sciences Depts.	16	51	12	31
GMR Administrative Services Depts.	17	54	11	30
GMR Personnel Dept.	1	2	—	1
Other Divisions and Staffs				
Non-Tech. Center site	6	18	1	3
Tech. Center site (lacking own information facilities)	4	13	5	12

It is not surprising that the major fields of GMR Library competence (physical science and engineering) represent respectively 83 per cent

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TABLE 5

Subject Matter of 577 GMR Interlibrary Loan Requests
(Based on Dewey Decimal Classification)

<i>Subject Matter</i>	<i>313 Requests for Period ending Nov. 1, 1964</i>		<i>264 Requests for Period ending May 31, 1965</i>	
	%	No.	%	No.
000 General Works	—	1	1	2
100 Philosophy	4	13	1	4
200 Religion	1	3	—	—
300-330 Social Sciences, Economics	3	10	3	8
370-380 Education, Public Services	1	4	3	8
400 Language	—	1	—	1
500-509 Pure Science	2	5	3	7
510 Mathematics	12	38	3	7
520 Astronomy	2	5	—	1
530 Physics	12	36	10	26
540 Chemistry	13	40	15	38
550 Earth Sciences	3	10	2	6
560-590 Paleontology—Zoology	1	3	4	10
610 Medical Sciences	3	10	7	18
620 Engineering	16	49	13	34
660 Chemical Technology	14	45	15	39
Other 600's Technology	5	16	13	34
700 Arts	1	3	4	10
800 Literature	2	5	1	4
900 History	5	15	1	3
Fiction and Biography	—	1	1	4

and 85 per cent of the totals. However, the fact that the remaining 17 per cent and 15 per cent cover the entire spectrum of knowledge shows the difficulty an industrial library faces in attempting to become completely self-sufficient.

TABLE 6

Format of Publications of 577 GMR Interlibrary Loan Requests

	<i>313 Requests for Period ending Nov. 1, 1964</i>	<i>264 Requests for Period ending May 31, 1965</i>
Periodicals	60%	52%
Books and monographs	37	45
U. S. Government Documents	2	1
Annual Reviews	1	2

The crucial importance of periodical literature mentioned by several of the authors in this issue of *Library Trends* is strongly supported by this case study. The twenty-three indexing and abstracting services currently received by GMR Library and its set of the Library

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of Congress' printed book catalog insure the accuracy of references forwarded for interlibrary loan. (In those rare cases where partially verified requests were forwarded, notation was made of sources searched.)

TABLE 7
*Date of Original Publication of 577 GMR
Interlibrary Loan Requests*

	<i>313 Requests for Period ending Nov. 1, 1964</i>	<i>264 Requests for Period ending May 31, 1965</i>
1960-1965	60%	60%
1950-1959	24	30
1940-1949	7	6
1930-1939	5	1
1920-1929	3	—
Prior to 1920	1	3

This dramatic illustration of the current nature of information actively sought by industrial researchers in fulfilling their literature needs still includes a chronological scatter of between 10 per cent and

TABLE 8
*Loaning Libraries for the 577 GMR
Interlibrary Loan Requests*

	<i>313 Requests for Period ending Nov. 1, 1964</i>	<i>264 Requests for Period ending May 31, 1965</i>
Detroit Public Library	84%	78%
Technology and Science	66	56
Sociology and Economics	1	5
Philosophy, Religion and Education	2	4
Other Departments	15	13
Wayne State University Library	15	20
Kresge-Hooker Science	13	17
Medical	1	2
Other Departments	1	1
Other local area libraries	1	2

15 per cent of earlier important works. There is an implication that cooperative industrial library support of acquisition action by a major regional library would be more advantageous than their separate efforts to secure pre-1949 materials.

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The superior collections of scientific periodicals in the Detroit Public Library's Technology and Science Department and in the Wayne State University Kresge-Hooker Science Library are clearly revealed in the sources of the materials borrowed by the GMR Library. There was a scatter of 20 per cent and 25 per cent of references sought in the other departments of the two main loaning libraries. The cooperative spirit evidenced by all levels at these libraries was of great assistance.

From the foregoing tables, it would appear that the usual request for an interlibrary loan from the GMR Library was from a member of the GMR Basic and Applied Science Departments on either a physical science or engineering subject, located in a periodical issued in the 1960's, and met by a loan from the Technology and Science Department of the Detroit Public Library.

The realization that the GMR Library was dependent upon the resources of the library community was accompanied by a conviction that all industrial special libraries must be good citizens of that community with corresponding responsibilities, rights, and privileges. This led to active participation in the drafting of the metropolitan area proposal by Katharine G. Harris, Robert E. Runser and this author; and in the affairs of the Associates of the Kresge-Hooker Science Library, the Advisory Committee on Libraries to the Macomb County (Mich.) Planning Commission, the meetings identifying the reference resources of the State called by the Michigan State Librarian, and other educational and recruiting endeavors.

References

1. "Answer Ma'am," Harper's, 231:29, Aug. 1965.
2. See pp. 236-261.
3. See p. 268.
4. See pp. 273-287.
5. See pp. 288-294.
6. See pp. 332-346.
7. Jackson, Eugene B. "Enter at Your Own Risk," *Library Journal*, 82:1146-1151, May 1, 1957.
8. ————. "Portrait of a Special Library System," *Library Journal*, 87:3962-3965, Nov. 1, 1962.

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