

Who Uses University Libraries?

BY NATALIE N. NICHOLSON and ELEANOR BARTLETT

IN REPORTS from universities and colleges all over the country runs a recurring theme—the increasing, almost explosive, use of libraries. The magnitude of this increase cannot be explained by the larger number of students alone. In fact, no satisfactory explanation is yet forthcoming. Undoubtedly, contributing factors are a greater emphasis on research, changes in teaching methods, and the accelerating output of literature, especially in the scientific and technical fields. Whatever the causes, this heavy use is accentuating the problems of procuring the materials needed for study and research, providing a competent staff to process and service them, and acquiring sufficient space for books and readers. Adding to the pressures are the demands for longer library hours and speedier services.

It was felt at the Massachusetts Institute of Technology that some factual data would be helpful in analyzing these problems. In 1954 the Institute's Operations Research Center and members of the library staff inaugurated a series of studies on library operations.^{1,2} The most recent of these was a one-week survey conducted from May 11 through May 19, 1959, revalidated by a one-day check in 1960, to obtain statistics on significant patterns of reader use. Who uses the MIT libraries, at what hours, for what purposes? Aid in formulating the questionnaires and sampling techniques was given by members of the Operations Research Center, who also worked out a coding system for analysis of the ques-

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tionnaires by means of punched cards. The various tabulations used in this paper were prepared from print-out sheets produced by running the cards through the 704 computer.³ The four largest of MIT's libraries were surveyed, namely the General and Humanities, Science, Engineering, and Dewey (Economics and Industrial Management). Forty-seven per cent of the total hours these four libraries were open was surveyed. Certain hours during the week were picked according to a sampling pattern, but on Friday evening, Saturday, and Sunday there was a 100 per cent sampling.

Every person entering the libraries during the hours selected received a questionnaire. A total of 8660 were distributed, 603 of them to non-M.I.T. users. Different forms (Exhibits A and B) were given to the two categories. The questionnaires were numbered consecutively. From the number distributed at each hour, it was possible to obtain a pattern of the traffic load at various times of day. The forms used for those affiliated with MIT were designed so that checkmarks only were required of the participant. Non-MIT users were asked to write in the name and address of their company, government agency, or educational institution.

¹ M. L. Ernst, "Preliminary Notes on M.I.T. Library Operations, May 10, 1954." Mimeographed.

² G. C. Bush, H. P. Galliher, and P. M. Morse, "Attendance and Use of the Science Library at M.I.T.," *American Documentation*, VII (1956), 87-109.

³ A research assistant, Rakhal D. Saha, compiled some of the tables. Others, computed directly from the questionnaires, were prepared by the authors.

Your help is needed to plan better library service. Please check or fill in ALL pertinent answers. Give more than one answer in each category if appropriate.

I am:

- a member of the faculty or staff
- a DSR* staff member
- a graduate student
- an undergraduate student
- other

My use of the library was in connection with:

- class preparation
- government sponsored research
- industry sponsored research
- personal research (including consulting)
- other

I have just come from:

- class
- dining hall
- my living quarters
- laboratory
- office
- other

When I leave the library I am going to:

- class
- dining hall
- my living quarters
- office
- other

May 1959

* Division of Sponsored Research

Your help is needed to plan better library service. Please check or fill in ALL pertinent answers.

I am from:

Industry

Name of company

Address of company

Your position

Government

Name of agency

Address of agency

Your position

Educational Institution

Name of institution

Address of institution

Your position If student, check

Other

Name & address

Your position

Are you an alumnus of MIT? Yes No

Do you have a library card? Yes No

Did you come to the library to:

Consult library materials?

If so:

Books

Journals

Other

Borrow books?

Other

May 1959

In evaluating the results, it is important to bear in mind that the final examination period was approaching when the survey was conducted, and that at such times use of the libraries by students, particularly undergraduates, is heavier than normal. Table I shows totals and percentages for all of the libraries surveyed. Undergraduates, 46 per cent, predominate; 71.9 per cent of their use was for class preparation, i.e. studying as opposed to research. They may have come for study hall purposes, bringing their own materials, or they may have come to read assignments on reserve in the library. An examination of the sheets on which undergraduates checked "Other" revealed that the purpose was "study" in a majority of cases. The next largest category of MIT users was graduate students, 35.4 per cent. Of these, 52.4 per cent used the libraries for class preparation, presumably a higher percentage than normal because of the pre-examination period. As expected, the research staff's use of the library for research purposes was high, 74.6 per cent. That 24.5 per cent of use in this category was for personal research probably is explained by the fact that many are both graduate students and members of the research staff. There was no way of distinguishing in which capacity they were using the library.

The right-hand column in Table I, showing research use percentages, may give some indication of the total portion of the libraries' activity devoted to the research-reference function versus a studying-circulation function. However, this survey omitted any indication of the length of stay in the library, an important factor in evaluating the relative research activity. The 1955 Science Library Survey⁴ showed that 40 per cent of those entering the library intended to use it only as a study hall; the rest intended to use it as a library to some extent. This latter 60 per cent had a mean stay of one hundred minutes; those using it as a study hall had a mean stay of half as long. Thus, a weighting by length of stay shows that there is twice as much research use as the proportion of individual users indicates.

In our 1959 survey, those from outside the Institute (Table II) constituted 6.9 per cent of the total. Of these, only 11.5 per cent indicated that they had library privilege cards. MIT regulations state that library facilities are available to authorized users only. Authorized users are connected with the Institute or must hold library privilege cards. However, the survey confirmed the impression that many come to the reading rooms and consult materials without cards. Of all non-MIT users, 20.5 per cent came from industry,

⁴ See footnote 2.

TABLE 1: MIT USERS
MAY, 11-17 1959
LIBRARIES SURVEYED: GENERAL & HUMANITIES, SCIENCE,
ENGINEERING, AND DEWEY

	Total Count	Percentage	Research Use Percentage
A. <i>Total of:</i>			
Faculty or Staff	949	11.8	
DSR	281	3.5	
Graduate Students	2850	35.4	
Undergraduates	3706	46.0	
Others	271	3.3	
	8057	100.0	

<i>B. Use for:</i>			
Class preparation	5249	56.0	
Gov't Sponsored Research	596	6.4	} 31.4
Industry Sponsored Research	303	3.2	
Personal Research	2045	21.8	
Other	1176	12.6	
	<hr/>	<hr/>	
	9369	100.0	
 <i>C. Use by Faculty for:</i>			
Class Preparation	380	31.1	
Gov't Sponsored Research	183	14.9	} 56.4
Industry Sponsored Research	100	8.2	
Personal Research	406	33.2	
Other	154	12.6	
	<hr/>	<hr/>	
	1223	100.0	
 <i>D. Use by DSR for:</i>			
Class preparation	62	17.1	
Gov't Sponsored Research	137	37.7	} 74.6
Industry Sponsored Research	45	12.4	
Personal Research	89	24.5	
Other	30	8.3	
	<hr/>	<hr/>	
	363	100.0	
 <i>E. Use by Grad. Students for:</i>			
Class preparation	1729	52.4	
Gov't Sponsored Research	219	6.6	} 37.2
Industry Sponsored Research	112	3.4	
Personal Research	900	27.2	
Other	343	10.4	
	<hr/>	<hr/>	
	3303	100.0	
 <i>F. Use by Undergraduates for:</i>			
Class preparation	2995	71.9	
Gov't Sponsored Research	19	0.4	} 14.9
Industry Sponsored Research	26	0.6	
Personal Research	574	13.8	
Other	554	13.3	
	<hr/>	<hr/>	
	4168	100.0	
 <i>G. Use by Others for:</i>			
Class preparation	83	26.6	
Gov't Sponsored Research	38	12.2	} 43.0
Industry Sponsored Research	20	6.4	
Personal Research	76	24.4	
Other	95	30.4	
	<hr/>	<hr/>	
	312	100.0	

TABLE 2: OUTSIDE USERS
MAY 11-17, 1959

	Total Count	Percentage
A. Total number from:		
Industry	124	20.5
Government	23	3.8
*Educational Institutions	376	62.4
Other	80	13.3
	<hr/> 603	<hr/> 100.0
B. Use for:		
Consultation of library materials	300	50.0
Borrow Books	46	7.7
Other, or did not answer	257	42.3
	<hr/> 603	<hr/> 100.0
C. Number of Alumni	55	9.2
D. Number who had Library cards	69	11.5
E. Time:		
Monday-Friday	328	54
Saturday and Sunday	275	46
F. Libraries used:		
General & Humanities	245	41
Science	265	44
Engineering	55	9
Dewey	38	6

April 1960

*Of which 350 were students

3.8 per cent from government organizations, and 62.4 per cent from other educational institutions. Sixty-three individual companies and ten different government agencies were represented in the sampling. Industry used the Science Library most heavily, General & Humanities next, and the Engineering Library third. (These figures by no means indicate total use of the library facilities by outsiders. About 40 per cent of the activities of the central reference department in 1959/60 were on behalf of non-MIT users. In a recent six months' period, reference statistics kept by the four libraries indicated that 21 per cent of such service was for outside users.)

It is significant that 46 per cent of the non-MIT users came on week ends. Most week-end users (57 per cent) were from other universities, and only a few were faculty. In fact, 93 per cent were students, coming from a total of fifty-six different educational institutions, but 61 per cent were from five universities in Greater Boston, and 34 per cent were from a single one.

Table III summarizes the traffic pattern of the four libraries. More people (37.5 per cent) came from and went to living quarters than any other category. Those coming from or going to classrooms accounted for 20.5 per cent; office

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and dining halls ranked somewhat lower, with still fewer coming from or going to laboratories. As would be expected, there was relatively little traffic between laboratories and the Dewey Library or the General and Humanities Library, a much higher percentage between laboratories and the Science Library. Laboratories ranked surprisingly low in Engineering Library traffic, classrooms high.

A composite picture of hourly use in the libraries is shown in Table IV. It is interesting that early evening use on week ends slightly exceeded that on week days. On all days the heaviest use was between 1 and 2 P.M.

A brief description of each library surveyed and some comments on statistics for each one may add to the meaningfulness of this analysis.

The General and Humanities Library includes the central reference department and the union catalog. In addition to reference materials, the collections serviced consist of books and journals in the various fields of the humani-

ties and those of non-specialized science and technology. Reserve books for humanities courses required of all undergraduates are housed in another location. Nevertheless, the General and Humanities Library had the highest percentage of undergraduate use—56 per cent. Other categories of MIT users were more or less in the same ratio as the average for all the libraries (Table I). Since the union catalog and the reference department, which handles interlibrary loans, are located here, one would expect the 41 per cent of non-MIT users shown in Table II.

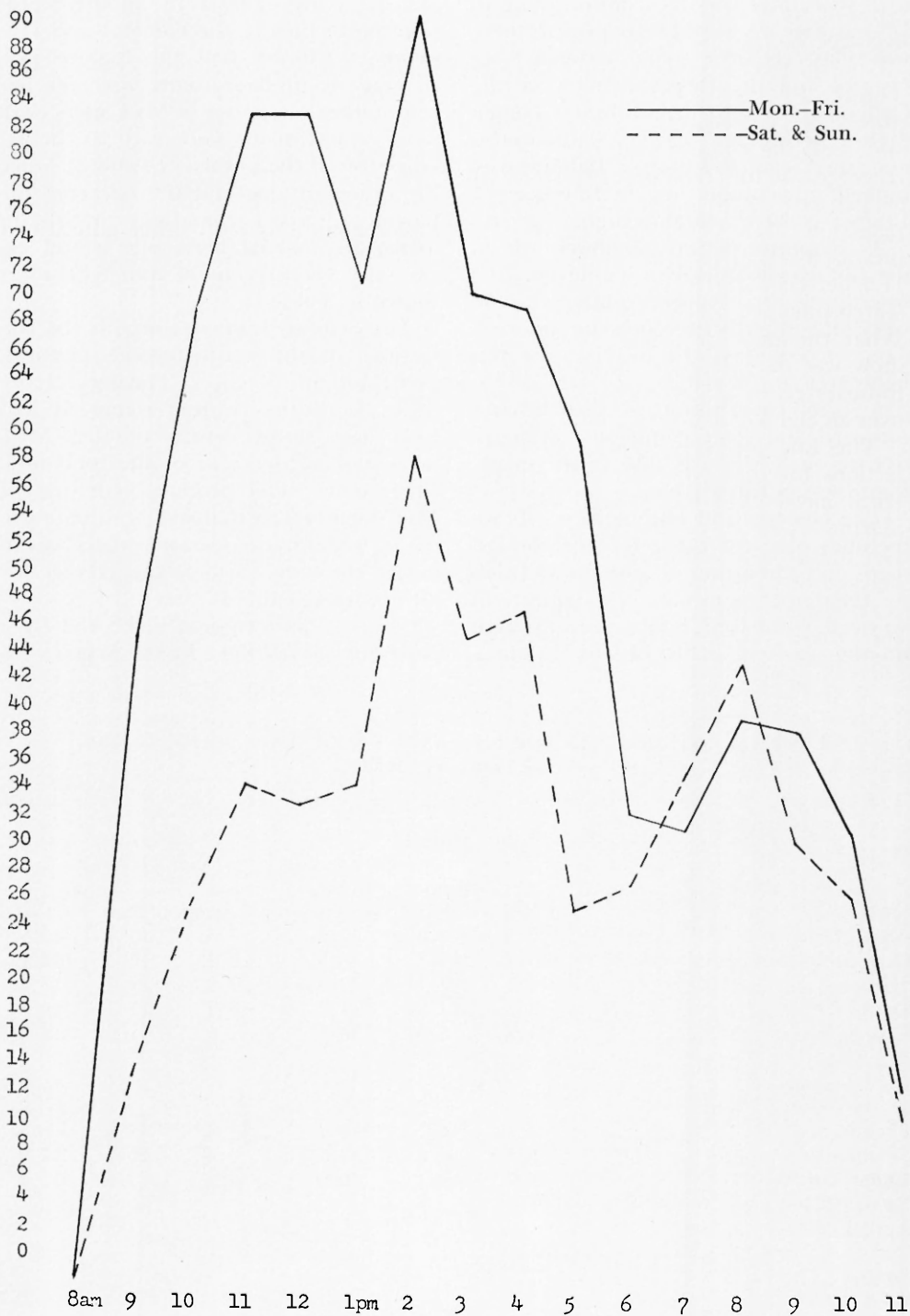
The Science Library contains the collections in the mathematical, physical, earth and life sciences. The most accessible of all the reading rooms, it had heavy use—60 per cent of the total MIT users and 44 per cent of the total non-MIT users. The proportionate use of MIT faculty, research staff, graduate students, undergraduates, and others was in nearly the same ratio as the average for all libraries (Table I).

The use pattern was rechecked by a two-hour survey held in the Science Li-

TABLE 3: WHERE MIT USERS CAME FROM AND WERE GOING
MAY 11-17, 1959

(Figures are percentages)						
<i>Library</i>	Class	Dining Hall	Living Quarters	Laboratory	Office	Other
All Libraries	20.5	9.9	37.5	7.3	10.9	13.9
General & Humanities	17.4	10.5	40.9	6.2	10.3	14.7
Science	17.3	9.4	39.6	9.9	10.4	13.4
Dewey	23.5	11.8	34.7	2.2	11.3	16.5
Engineering	31.8	8.5	28.5	7.0	12.9	11.3
<i>All Libraries</i>						
(By Class of User)						
Faculty and DSR	4.5	6.7	18.7	17.4	45.9	6.8
Graduates	18.5	9.8	33.7	9.2	16.6	12.2
Undergraduates	26.7	11.1	46.0	4.1	12.1
April 1960						

HOURLY AVERAGE OF PEOPLE ENTERING THE LIBRARIES,
May 11-19, 1959



brary on October 25, 1960, using the same questionnaires and the same method of distribution. The day and hours chosen were those in which the percentages of types of users most nearly matched the average percentages of types of users in all the libraries surveyed in May 1959. The results were nearly the same as the previous ones in all categories of users and uses, the chief change being an increase in use for class preparation—from 56 per cent to 61.6 per cent. This is a reflection chiefly of the research staff who increased their class preparation use by 11.5 per cent. Use of the library for research purposes was slightly greater, too. What the new brief survey seemed to show was that the pattern of use of our libraries remained relatively unchanged over an eighteen-month period.

The Engineering Library houses collections for the civil and sanitary, electrical, mechanical, navel architecture and marine engineering departments. The fact that it is less accessible than Science may account for the fact that only 9 per cent of the total outside users found their way there, and the week-end use was low. This is explained in part by shorter week-end hours than in the General and Humanities or Science libraries. The Engineering Library shows the only significant difference in traffic pattern from the average; a considerably higher proportion of users were coming from or going to class. Though the number of undergraduates using this library was in nearly the same proportion as for all libraries surveyed, it is significant that the undergraduate dormitories are located at some distance away.

The Dewey Library is situated about one-quarter of a mile from the rest of the MIT campus. It serves the School of Industrial Management, including the department of economics. This library maintains a large corporation file, and a special collection of industrial relations pamphlets and documents as well as other materials within its fields of in-

terest. Here students form 86 per cent of the users, with graduate students in the majority. The latter used Dewey heavily for class preparation—67.5 per cent. Only 6 per cent of the total outsiders used this library.

The statistics on outside users (Table II) were of considerable help in formulating the Massachusetts Institute of Technology Libraries Membership Plan for Industry, established in 1960. Also, these figures will continue to be useful in deliberations with other educational institutions in the urban area on the problems of cross-use of libraries by faculties and students. Information drawn from the survey has been helpful, too, in planning the hours during which the libraries are open, and the types and number of personnel needed. The traffic pattern and the heavy use by undergraduates are being carefully studied by the planners in their considerations of future building needs at MIT.

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