A Proposal for the Revision of the Library Materials Allocation
Formula at Mount Saint Vincent University

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I. Introduction

This report is significantly longer and more detailed than previous reports on the allocation formula for the following reasons:

- Any decision on the probable retention and possible revision of the allocation formula must be based on good information. My sabbatical has provided an opportunity to read extensively on the topic of collection development in general, and to analyze existing formulas specifically. Since those who will ultimately decide on this matter have other commitments, there must be enough documentation on hand to judge the worth of the recommendations I have made.

- Our allocation formula may be either revised extensively or left essentially intact. Whatever the outcome, there is enough detail in this report to suggest that some important decisions will have to be made before even a partial revision is implemented. Many of the decisions relate to the collection of data by the library staff and the workload implications. The librarians may decide to undertake further data collection for purposes unrelated to the formula. It is also important to assess the feasibility of more extensive data collection: are sources available and can the compilation be done without undue effort and time or the reassignment of staff from their regular work? If we determine that the Geac Advance System, the Registrar's Office, or our vendors can not supply revised data sets, or that customization is required, then we may have to find alternative sources or decide against revising a component.

- The allocations formula can only be usefully evaluated in the context of the Library's collections management and development goals. This report addresses issues which would have been part of my collections development self-study as well as any formal presentation to the 2004 External Review Committee. The budget allocation by formula has an inordinate influence on the Library's daily operations since it affects every sector of our work; the acquisitions budget is the primary component of the Library's operating budget. However, the formula is only a means to an end.

II. Methods of Acquisitions Budget Allocation

Evans observes that allocation methods can be positioned on a continuum with impulse at one end and formula at the opposite end. Impulse refers to a situation where the most impulsive (i.e. active) librarians or teaching faculty do the bulk of materials selection. The historical / incremental approach is somewhat more formal, and allocation by formula, with its promise of objectivity using quantifiable factors, is the most formal.

The Guide to the Management of the Information Resources Budget published by the Association for Library Collections & Technical Services, a division of the American Library Association, describes four main types of allocation method, of which formula budgeting is one:

- Historical or incremental budgeting: The current year's allocation is based on the previous year's allocation. The underlying reasons for allocating money to specific budget categories are not questioned. Evans believes that this is the most widely adopted approach.

- Zero-based budgeting: The justification for allocating specific amounts of money is examined each year from a base of zero with resulting fluctuations from year to year. I could not locate any examples of this approach used alone. A library budget committee at the University of Illinois uses a 0-10 scale to rate annual allocation requests by departments, but this is only applied to 40% of new money.

- Formula or matrix budgeting

By ranking: A set of library - appropriate criteria (components) ,with or without weights, are applied to each allocation unit (e.g. department) and numerical values are assigned to establish a rank order. The higher the rank, the greater the allocation is. When formula budgeting is mentioned in the literature, it most often refers to a formula which assigns a rank to each unit or department. MSVU uses this method without weights, i.e. all components and data categories are equal.

By percentages: The acquisitions budget is allocated according to the percentage of the **total** institutional budget devoted to the instructional and research funding for each unit or department. This method is also referred to as Percentage Based Allocation (PBA). The Percentage Based Allocation (PBA) allocates to each department a library materials budget at the same percentage as its instructional and departmental research budget. Although the PBA seems simple to explain and implement, its use can only be justified if the university's instructional budget is based on a rational plan or formula, and if there is a high positive correlation between a department's budget and its library needs or intensiveness. The PBA method has not been widely adopted.

- Combination budgeting: Budgets which employ a combination of methods e.g. historical practice and a formula, zero-based budgeting and a formula. In some budgets a percentage is apportioned equally among all departments with a formula applied to the remainder. This flat allocation is usually in the 15 to 20% range.

It is difficult to accurately determine the preferred method of budget allocation among university libraries in North America although the use of formulas seems to be declining. A survey by Hans Muller in 1941 reported that 73.3 % of U.S. college libraries used a formula allocation. A 1987 survey of 357 U.S. academic libraries (Budd and Adams p. 384) indicated that 40.6 % used a formula; a 1994 survey of 192 college and small university libraries indicated 40 % used a formula (Tuten and Jones p.16). When Tuten and Jones asked those respondents who reported **not** using formulas to indicate their preferred method, 11 % indicated "assigned percentages", 17 % - order processing on first-received basis, 37 % - priority to areas targeted for development. The remaining

37 % cited various methods: selection by library subject specialists, historical allocations maintained etc.

The 1987 survey did reveal that the formula method was most popular at institutions designated by the American Association of University Professors (AAUP) as Type II A : schools offering some graduate programs, but with no significant doctoral programs. Type II B (general baccalaureate) may be too small to make an allocation feasible and Type I (doctoral-granting) may have sufficient financial resources to use blanket orders and approval plans, and to employ librarians as subject specialists in all disciplines.

III. Formula Budgeting

III. i. Formulas - Con

Although formulas have been used to support the equitable apportion of acquisition funds since at least the beginning of the twentieth century, they have not been universally accepted. In a paper on the subject delivered at the American Library Association in 1908, Theodore Koch outlined objections to formulas which have persisted to this day: senior faculty have more control than junior faculty in departmental book selection, new departments need to have sufficient resources to develop collections, and a library with insufficient discretionary funds to remedy gaps in the collection is merely an aggregation of specialized materials.

The following quotations encapsulate some of the main criticisms.

"I think both the inputs to, and the goals of, the library system ... an equally fuzzy, multidimensional, and complicated problem. The best way to proceed is to hire people who know what they are doing and let them do it. Resources should be allocated through judgments rather than formulas. To be succinct, good (or even fair) judgments are better than poor formulas." University of Illinois economist quoted by German and Schmidt p.432

"...the Library loses a considerable amount of flexibility in its distributive processes. It is more difficult to provide for new or expanded programs under such a plan because many of the factors to be included in the calculations for new programs, e.g. credit hours generated, course offerings, have yet to be determined." Goehner 1983 p.169

Some criticisms are aimed at the spurious objectivity suggested by a procedure which is often (but not always) expressed in mathematical symbols.

"....despite their appearance, most published formulas are not scientific; they are merely notationally simplified expressions of arbitrary procedures. Nevertheless, distinguishing

between scientific and procedural formulas is often difficult because both usually contain objective elements and often employ similar representational techniques." Shirk p.38

"... there is no *one* convincing theory of acquisitions allocations that can combine science with the reality of campus politics." Packer 1988 p.281

The end of the allocation process, rather than the means, is the focus of some criticism.

"Everyone wants to begin at the end - that is, to know what the formula will give them in real dollar terms ... the general ends of equitable distribution of limited resources; the balanced growth of the collection, and the meeting of *bona fide* instructional or research goals of the institution can be lost in the process." Lowry p.122

Issues relating to collection development predominate when librarians discuss the end result of departmental allocation schemes.

"A survey of the literature on variables shows one important lacuna, which is the need for allocation formulas to take into account somehow the collection development policy of the individual institution." Lowry p. 134

"There is a tendency for them [the teaching faculty] not only to maintain all subscriptions on their current lists but to acquire additional periodicals. Each new subscription is a continuing commitment against their departmental allocation. Because that money is unavailable for other discretionary purchases, there are fewer and fewer monographs added each year." Goehner 1986 p.183

Any formula revision which initiates real change is unlikely to be well received unless due attention has been paid to all constituencies.

"Libraries can use any formula they choose, but the reality is that if the formula demonstrates a need for a drastic reallocation of funds, such a solution will never be acceptable on the campus if put forward by the library alone." Packer 1988 p.285

"Beyond methodological arguments, it must be noted that local debate frequently is related less to the validity of the data elements identified that to the effect of the implementation of the formula - that is, whose ox is being gored." Mulliner p.316

III. ii. Formulas - Pro

Those in favour of allocation formulas marshall their arguments around two main points:

- There is no published empirical evidence to buttress the argument that a single or few individuals with knowledge of the library collection and the curricular and research needs of a university, and of the universe of scholarly publication, or a book supplier

with an approval plan based on an institutional profile, will guarantee greater fairness and integrity than allocation by formula.

- Since allocating scarce resources is a political act which benefits some at the expense of others, a formula will provide a rational basis for beginning determinations as to distribution. While the formula's components, data and weights may be manipulated, the results should be immune from political pressure.

To be succinct, a formula attempts to solve two problems 1.the allocation of limited resources on the basis of equity and need, and 2.the political dilemmas of unequal resource allocation.

III. iii. Principles to Ensure Fairness in Allocation by Formula

Before formula components are selected, it is useful to try to determine the prevailing principle or principles which drive the budget allocation process at a university. Schad identifies three basic principles which may be used singly or in combination.

- The Principle of Need. Funds are apportioned among departments according to the particular requirements of each discipline.
- The Principle of Contribution. Funds are apportioned on the basis of the degree to which department serves the institutional mission. It states a relationship between a department's productivity, measured by factors such as published research, graduate credit hours, ILL usage, and the resources which it receives.
- The Principle of Equality. Each department receives an equal share regardless of need or productivity.

Schad suggests that weak departments tend to argue for principles of need or equality while strong departments develop arguments to justify their larger share, thus reinforcing the contribution principle. Adherence to ideas which sustain a principle may change over time as departments evolve, e.g. the need principle may attract more adherents in a department which is in decline.

It is by no means easy to use one or more of Schad's principles to describe the Mount's allocation process. Our components of enrollment, calendar courses, circulation, and average book costs seem appropriate to the principle of need. However, there is no distinction made between the greater need of a library reliant discipline compared to one with a laboratory or textbook orientation, or between the library resource needs of a student enrolled in an upper level or graduate course and those of a student enrolled in a service course such as writing or statistics. The principle of contribution seems to be served by enrollment and course counts, but there is nothing in our formula components which acknowledges the research and publication effort of faculty or graduate students, or which assigns a greater weight to upper level students and courses.

Does the MSVU formula address the principle of equality? While it is obvious that Speech & Drama with a 1.4% share of the 2003/04 acquisitions budget is not in the same league as Education with a 16.7 % share (exclusive of the Transition Grant), there is no particular advantage given by the component data to Education or other graduate programmes within the formula allocation. In addition, the equal weighting of each component in the Mount's formula means that the size of enrollment in a department is considered no more or less significant than the average internal cost of a book ordered by a department during the year. If a department applies its entire fund to periodical subscriptions and is not able to purchase books, the allocation, as presently calculated, will assign a zero value to the average book cost component - the same effect on the outcome as zero enrolment.

However, it is hard to ascribe equality to some aspects of the formula. The total periodicals (continuations) expenditure component compromises the equality principle by assigning the highest rank to a department which spends the most money on periodicals, thus rewarding what has been achieved in attracting funds and ensuring that any department which values monograph acquisition is always at a disadvantage. One simple strategy for a department to increase its average of standards in the current MSVU formula would be to maintain its subscription list at the highest cost level possible and purchase a single expensive book to inflate its internal book cost score.

Moreover, unlike some examples in the literature, our formula does not guarantee each department a base allocation; it is quite conceivable that a weak department could be made even weaker with a token allotment of funds insufficient to build a library collection or maintain any periodical subscriptions.

III. iv. Procedures to Ensure Fairness in Allocation by Formula

Although a formula will incorporate the principles of need or contribution so that one prevails or is in balance with the other, it may be difficult for the principle of equality to co-exist with need or contribution. However, Schad contends that procedural fairness helps to neutralize concerns about outcomes. He defines six procedural rules which should be applied fairly and equally:

- Consistency. Procedures are uniform over time and are applied to all.
- Bias Suppression. Personal or departmental self-interest is excluded from all allocation decisions.
- Accuracy. Allocations should be based on good information and informed opinion.
- Correctibility. Procedures are in place to remedy oversights and errors, and to appeal decisions perceived as unfair.
- Representativeness. The allocations reflect the basic concerns, values, and outlooks of all departments, and must be developed and reviewed by representatives from all important constituencies.
- Ethicality. Procedures must be fundamentally ethical.

Based on comments made to the SLC, I believe that Mount faculty members are relatively confident that procedures are consistent, correctible, representative and ethical.

Accuracy may be less easy to judge for all components since the Library relies on data provided by the Registrar (courses, enrollment) and the Geac Advance operating system (loans). I do have some concern over the currency of the Library of Congress class ranges used to collect circulation data for each department, but this could be remedied by a more frequent revision. Bias is a concern. Our use of total courses listed in the calendar benefits a department which chooses to publish course descriptions whether they are currently available to students or not, and disadvantages a department which does not list a course unless it can be taught. The use of the average "internal" book cost as an alternative to the "industry" average may disadvantage a department which carefully manages its allocation by selecting less costly paperbacks instead of more expensive hardcovers.

III. v. The Formula Components

Since each of the five constituent elements of the Mount's formula, enrollment etc., is called a *component,* I will use this term in my report. There is no standard terminology in the literature to describe allocation formulas. Published formulas use various terms to describe the components for which numerical data are collected: most often they are called factors or variables; less frequently, criteria, elements, or categories.

The selection of components and the collection of relevant data are the most frequently discussed topics in the literature on formulas. The components cited most frequently in the surveys are those most easily quantifiable; thus ensuring, it is hoped, that data sources are accurate, the collection process is economical, and annual updating is relatively effortless. However, Lowry's admonition that "what counts easiest should not count most" (p. 125) suggests that components are also appropriate which try to measure the quality of a collection and the literature needs of a department (or a discipline), and which will serve institutional objectives.

There is no optimum number of components recommended for formulas. Applying factor analysis, William McGrath and his colleagues identified three components among 43 possibilities which they believed had the greatest potential for successful allocation decision-making: circulation count by department / subject, enrollment by department, and references cited in graduate theses by department (a count which he eventually rejected as uneconomical). He later reduced the components to two: circulation by department / subject and average book prices in subject categories; a simplified formula described by Shirk (p.45) as "probably the best yet available in the published literature." In contrast, the formula used at the University of Texas,Arlington has twelve components which Lowry observes "is probably the practical limit." (p.131)

Surveys over a twenty year span reveal a consensus with respect to the components most identified as relevant for an allocation formula. Francis Greaves' 1974 survey of 54 U.S. libraries ranks the most frequently used components as: 1. No. of faculty in a department 2.No. of students or no. of student credit hours in a department 3. Amount of research generated by a department 4.Cost of library materials and 5.Adequacy of the library collection in subject areas 6.Number and type of courses in a department 7.Circulation by subject areas 8. Past record of department in expending allocated funds. The Budd / Adams 1989 survey of 145 libraries ranked components most

frequently mentioned as: 1. No. of students or student credit hours (84.1% of respondents) 2. Cost of materials (61.1%) 3.No. of faculty (49.6%) 4.Circulation by department / subject (39.8%) 5.No. of courses offered by department (31.9%) 6.No. of students majoring in a department / subject (23.97%). The 1994 Tuten / Jones survey lists the most widely used components as: Average cost of books in field (62% of respondents), FTE faculty (54%), Student credit hours (53%), Circulation statistics (51%), Undergraduate major or minor offered (43%), FTE students (41%).

III. vi. Formula Component Selection

An explicit acknowledgement of the principle or principles which drive the allocation formula, and the procedural rules which ensure an equal application of the formula, are fundamental to the allocation formula process. When we direct our attention to the selection of specific components, we note common characteristics:

- the components use "objective" data that are not only easily gathered, but also amenable to being reduced to a percentage of the total. Diverse variables , "apples and oranges", can be compared arithmetically;

- the components and supporting data are selected which have the highest likelihood of acceptance by those constituencies with a stake in the process, thus recognizing the inherent political nature of the allocation process;

- the components and supporting data can usually be assigned to either the "internal" or demand side, or the "external" or supply side.

The demand side consists of those components which use data generated internally by the institution's programs: potential demand includes enrollment. student credit hours, number of courses offered, number of faculty, number of majors, research and publication activity; actual demand includes library loans, interlibrary loan requests, in-library use counts.

The supply side are those components which use data generated externally: the cost of books, periodicals and other formats, and the publication rate of books and periodicals by discipline, and less commonly, the use of citation characteristics of disciplines to establish a ratio of book / periodical expenditures.

In this instance, as with so many others, there is no standard practice to determine the correct balance and weight for the demand and supply components. Among the formulas reproduced by Tuten and Jones, 25 use both demand and supply components in various percentages, and five use the demand component only. None use supply alone. At Western Illinois University 60% is demand: 50% of which are weighted on and off campus student credit hours, 25% FTE faculty, and 25% weighted course credit hours; 40 % is supply - book costs and periodicals costs. Demand and supply are balanced 50/50 at Ohio University. 50% is demand: actual demand or "use" based on circulation (15%) and ILL requests (10%) and weighted student credit hours (20%) combined with potential demand or "population" based on the number of faculty (5%). 50% is supply: based on

the publishing costs of books, non-print formats and periodicals adjusted by program level.

At the Mount, three of the five components address either actual demand (library loans) or potential demand (enrollment, courses), one addresses supply (internal average book cost) and one is an anomaly (total periodical expenditures) since it measures neither demand or supply, but merely assigns a score to a department based on its ranking i.e. the department's current total expenditure on periodicals. When the fifth component is eliminated, the ratio of demand to supply is 75 / 25 since all components are weighted equally.

III. vii. Weights

Weights (or constants) are commonly applied to formula components and/or categories of data used by each component. The use of weights acknowledges that some components may be more significant than others for apportioning library funds in a way which reflects the collection development goals of the university, and that some data sets, e.g. graduate student credit hours or upper level courses, may require some special adjustment during the collection process. As mentioned earlier, the weighting of components and /or data can serve both the principle of need and the principle of contribution.

As with so much else under consideration, the selection of the weighting factors is institution-specific, subjective, perhaps arbitrary, and no more scientific than the selection of components. As a general rule, when weights are applied to student credit hours and courses, which are the most popular targets, the highest number is assigned to the graduate level programs, then upper level and lower level undergraduate programs (and occasionally off-campus programs): 3/2/1 or 2/1/.5 or 2/1.5/1 or 1.5/1/.5 are used in the sample formulas compiled by Tuten and Jones. Even so, some institutions break the normal pattern: SUNY - Potsdam with 1.25/2.5/1 uses a weighting factor (2.5) to multiply the number of upper level undergraduate credit hours which is higher than the factor used for graduate credit hours.

Some institutions apply weights to data sets in components which normally use unweighted data. Ohio University adjusts the cost of publications by a multiplier based on programme level: the costs of materials in an academic discipline are weighted at .035 for a baccalaureate program and weighted at .75 for a doctoral program using the rationale that the information demands of a student in advanced studies exceed those of an undergraduate student. The University of Maryland formula components are apportioned 20% to departmental activity (FTE faculty, student credit hours), 30% to departmental achievement (faculty publishing, sponsored research, doctoral degrees awarded), and 50% to the publishing universe of books and serials. For the faculty publishing component, 1 scholarly monograph is deemed to be the equivalent of 3 articles and 4 creative works.

In those formulas where components are unequally weighted, it is easy to identify those components which have the greatest significance, and which will affect the greatest change to the outcome if deleted. Lowry recommends that if new components are added to the formula they should be assigned very small weights "so that they gain

acceptability." With a greater number of discrete components, there is less opportunity for one to exert undue influence on the outcome.

In the case of the Mount's formula, the use of equally weighted components means that the addition or deletion of a component has dramatic consequences. When I tested the effect of reducing the five components to four by eliminating the Calendar Courses component, I discovered that the final allocation increased for 13 departments by .6% to 21%, and declined for 11 departments by 1.9% to 67%. It is not surprising that the departments with the highest quotient in this component are hurt most when the component is eliminated, e.g. Education's allocation decreased by 22 % and Modern Languages by 67%. The negative effect of eliminating a single component is somewhat moderated for a department if it registers high scores under the remaining components.

III. viii. Logarithms

The use of logarithms, while significantly less extensive than the use of weights, serves a similar end. Both weights and logs are intended to alter the effect of raw data in a way which better serves the intended purpose of the formula - the fair allocation of funds to those departments with actual and potential library resource needs. In essence, a logarithmic plot modulates the effect of the increase in a size of a number in those instances when a higher number may distort the real significance of component data. Lowry refers to the distortion caused by the high number of credit hours tallied for students enrolled in service courses with many sections offered in departments such as English and Mathematics; he questions whether the high enrollments in service courses should be used to increase the acquisitions funds allocation to the same extent as enrollments in English and Mathematics courses with smaller enrollments, but with greater library resource needs. Of course, it's possible to avoid this dilemma by using a formula component that counts only the credit hours earned by undergraduate students with declared majors.

The act of assigning weight percentages to formula components is ultimately subjective; so too is the decision on which component data to log. At the University of Texas at Arlington four of the twelve components are weighted and logged, e.g. student credit hours weighted by program level.

IV. Formula Budgeting at Mount Saint Vincent University

IV. i. Evolution of Our Formula

The allocation formula used in 1978/1979 with its five components: enrollment, calendar courses, MSVU average book cost, library loans and total cost of departmental subscriptions, with the calculation for each department's annual allotment, is identical to the one we use in 2003 / 2004. It is worth noting the inclusion of a subscription component 20 years before the allocation was extended to cover serial expenditures.

The formula method was in use to calculate monograph allocations even before 1978. The earliest example in my files dates from 1976/1977, with the calculation further simplified in 1977/ 1978. This calculation was significantly different from the one currently in use. Each department's allocation was determined by a mean of percentages for enrollment and listed courses, adjusted by both the industry-average book cost and the size of a department's library collection as compared to the number of comparable titles listed in Books for College Libraries, and each department's loans for a single month in the fall or spring term as a percentage of total loans. The 1976 - 1978 formula is notable for its use of Books for College Libraries as the standard by which to assess the adequacy of the Mount collections. For example, when it was determined that the number of sociology / anthropology books on our shelves exceeded the total listed in BCL by 1.7%, the sociology / anthropology allocation was reduced by that percentage (or increased for a department if the Mount collection was smaller than the BCL total) . The allocation formula was expected to address deficiencies in the collection by providing funds to departments in need, but there was not enough money in the acquisitions budget to achieve any significant improvement. The suitability of BCL is debatable as a standard to provide a meaningful analysis of the Mount's monograph collection, but at least this early edition of the formula attempted to address the issue of the Library's current collection strengths and weaknesses as a component as important to collection development needs as the relative strength of departments based on the components of enrollment and course totals

IV. ii. Review of Formula (1989)

In 1989 Lucian Bianchini, the University Librarian, and Dr. Reginald Stuart and Dr. Brook Taylor of the History Department formed a Formula Subcommittee (FS) at the request of the Senate Library Committee (SLC) to answer two questions:

• Does the current allocations formula address the needs of departments, and if not, can the formula be revised so as to meet those needs equitably?
• Can departments have greater flexibility in dividing their allocations between book and periodical budgets?

Four components were selected - enrollment, courses offered, average book cost, and annual frequency of book publication. The FS did not define "offered" so it is unclear whether the courses were those taught during the year or listed in the calendar. No sources were identified for book cost or publication rate although the data was likely supplied by the approval plan vendor. The report did not provide reasons for the choice of the four components although those chosen nicely balanced the internal variables of potential demand (enrollment and courses) with the external variables of material supply

(cost and publication rate). Based on the report to the SLC, it does not appear that the FS investigated either the weighting of data i.e. assigning more weight to higher level courses and / or enrollments, or the weighting of components so that enrollment , for example, might have more impact than publication frequency.

The test calculation reported even greater inequities than the unrevised formula: English, a book dependent department, received a cut of 21% to its allocation, and Chemistry, less book dependent as an undergraduate science programme, received a 53% increase to its allocation. Although the FS did not state this explicitly, it is clear from the evidence that the exclusion of the library use component using circulation data will disadvantage library dependent departments, and that high average book cost in a formula, in which all components are weighted equally, will benefit disciplines in the sciences with expensive materials. The FS recommended that the allocation formula remain in place "pending the results of studies to be conducted by the firm that handles our Approval Order Plan ... The FS will re-examine the matter once such data are available ...". I have nothing in my files to suggest that studies were undertaken. In any case, the formula was not revised.

IV. iii. Policy for Acquisitions Allocations (1996)

When addressing the periodical question, the Formula Subcommittee recommended that each department be permitted to assign up to 25% of its annual book allocation increase to new subscriptions. Eventually this issue was rendered moot by the following Senate policy, dated Nov. 20, 1996, which apportioned funding of the disciplinary serials list among the departments:

The Senate Library Committee unanimously recommends the Senate approve the following Policy for Acquisitions Allocations:

That the Formula previously applied only to monographs be applied to both monographs and periodicals, and that the implementation of this policy be phased in over a three-year period.

IV. iv. Formula Budgeting at Mount Saint Vincent University: Current Practice

The allocation formula is applied to approximately 60% of the base library acquisitions budget with the remaining 40% reserved for library expenditures for reference and general acquisitions. In addition, the acquisitions budget encompasses several funds each of which have their own terms of use : the Petro-Canada Fund ($15,000 per annum), the Education Transition Grant ($40,000 p.a.), two Learning and Leading Endowment Funds (approx. $16,000 p.a. based on fund income) and the Prof. Murray MacNeill Memorial Endowment Fund (annual amount varies). In 2003/2004 $253,538 was divided among 21 departments and 3 programs.

Most electronic resources are funded outside the allocation formula. In 2003/04 $24,884 or approximately 5.8% of the base acquisitions budget (i.e. the budget excluding endowed funds) was set aside for access fees to Academic Search Elite (Ebsco) and some

of the larger multidisciplinary databases. Our membership in CNSLP has been paid from its own budget line distinct from acquisitions.

Each allocation unit appoints a co-ordinator who serves as a liaison between the department or program and the library, and countersigns book orders before they are forwarded to the orders assistant. The orders assistant reports fund expenditures and encumbrances to the co-ordinator once a month, and will contact the co-ordinator when a change to the allocation amount requires cancellation of subscriptions. The orders assistant provides faculty with order verification, and will send lists of current subscriptions to the co-ordinator on request. The collections development librarian may be called upon to identify periodicals for cancellation based on duplicate holdings in local collections and / or electronic equivalents. Once periodical subscriptions are paid from each year's allocation, the remaining funds may be used to purchase monographs: books, videos etc. It is up to each department to determine its ratio of periodical and monograph expenditures. The collections development librarian may intervene and use unspent general or reference funds to maintain a core title if a department is no longer able or willing to support the subscription.

Once a year, usually after the October meeting of the Senate Library Committee, the chairs and co-ordinators meet with the librarians and the orders assistant for a question and answer session, and an exchange of information on ordering procedures and collection development.

In April 1997 the Senate Library Committee recommended a procedure which permits two or more departments to share the cost of materials. This presents less difficulty for expensive monograph purchases, but is less easy to manage for periodical subscriptions. e.g. when one or more departments agree to cancel, the remaining partner or partners to the shared purchase may wish to maintain the title but not assume the additional cost.

IV. v. The Role of Librarians in Acquisitions Budget Allocation

The ranking formula is applied only to that part of the acquisitions budget reserved for academic department purchasing by faculty. The part of the budget reserved for general and reference purchasing by librarians is usually defined as separate undifferentiated funds in most formulas under review.

At MSVU the General Fund is used to maintain and develop core and multidisciplinary collections, and the Reference Fund is used to maintain and develop the librarians' working collections. Minor adjustments are made over time to meet contingencies: a department with unencumbered funds may purchase a specialized reference work when both library funds are fully encumbered or the General Fund will continue to support a serial subscription, which has been cancelled by a department, when local demand is clearly evident. Portland State University refers to the budget under library control as the "Core Budget". It consists of two sectors: I. Core Collection Needs supports multidisciplinary electronic resources (Ebsco, Web of Science etc.), multidisciplinary periodicals and reference works, and multidisciplinary programmes II. Interdisciplinary / Multidisciplinary Subject Clusters support specialized indexes and abstracts in the humanities, science and engineering, and the social sciences.

Since the configuration of a library acquisitions budget is so dependent on its immediate institutional environment, no standard has been recommended or accepted for dividing funds between the librarian and teaching faculties. Among the published budget formulas under review, the range is vast : from 20% library / 80 % faculty at the Victoria University of Technology (Australia) to 50% library / 50% faculty at St. John Fisher College (Rochester N.Y.). At MSVU the division is 40% library / 60% faculty.

V. i. MSVU Formula Revision: Basic Recommendations

A library allocation formula in an academic institution is intended to apportion scare fiscal resources in a fair, equitable and defensible manner so that books, periodicals and other materials may be acquired to support the curricular and research needs of students and faculty. A library budget formula should be primarily oriented towards providing resources needed to further the scholarly enterprise; to sustain those departments which look upon the library's collections and services as fundamental. The library budget formula should not merely reflect the relative strength and presence on campus of a department.

The components selected must be supported by easily quantifiable data yet be relevant to library collection development. One way to avoid a hard decision is to resort to multicollinearity, i.e. components which essentially measure the same thing are added to the formula to make sure that all contingencies have been covered. To counter this tendency, librarians have sought in vain for the "Holy Grail of variables" - the elusive, but invaluable surrogate which will serve as the most significant measure of demand or supply to the exclusion of less reputable contenders.

Kent Mulliner seems to offer a way out of this impasse by recommending that the formula establishes an equal balance between demand components (e.g. circulation, enrollments) and supply components (e.g. the cost of materials). The simplicity of this approach appeals to me, particularly if it were possible to select an equal number of demand / supply components to obviate the need to decide on weighting. In fact, the Formula Subcommittee (FS) chose to balance four equally weighted supply and demand components ("variables") for its test calculation (although two measures of potential demand were used).

While the weighting of data, for components such as courses and student enrollments, seems unavoidable as a means of addressing need and contribution, and should be defensible if all parties agree that demand at the upper level has greater weight than demand at the lower level, the weighting of the actual components is more open to dispute and subjectivity. Although weighting is commonly applied, there is rarely any explanation offered to justify a greater weighting for one component over the other. In the absence of any published standard or guideline the University of Texas formula assigned the faculty FTE component 10% of the formula, material costs 42%, library use 5% etc. based on local discussions influenced by local conditions. Ohio University assigned faculty numbers 5%, material costs 50%, and library use 25%. In the latter example, Mulliner notes that the strong correlation between weighted student credit hours (the remaining 20% of the formula) and number of faculty at Ohio University, provided

an opportunity for the elimination of one component, but the reality of campus politics intervened ("faculty are the primary constituency in determining the acceptability of the formula") to ensure the retention of both components.

1.Recommendation: That a revised allocation formula select components which address the primary mandate of Library acquisitions: to maintain and develop collections which meet the teaching and research needs of departments within the fiscal realities established by scholarly communication practices and scholarly publication rates.

2. Recommendation: That the components of a revised allocation formula at MSVU reflect an equal balance of internal demand (the potential demand of the local population and the actual demand from library use data) and external supply (publication costs and publication rates) - the equal balance achieved by the number of components selected, or by weighting components.

3. Recommendation: That the weighting of data be considered for the potential demand component to recognize the principles of contribution and need.

4. Recommendation: That the internal demand components chosen for the formula equally balance potential demand (enrollments, courses taught), **and** actual demand (library use - both circulation and in-house).

5. Recommendation: That the supply components chosen for the formula equally balance average external costs for monographs and periodicals, **and** the size of the publication universe for each discipline.

V.ii. MSVU Formula Calculation: Recommendations

The information in quotation marks is from the text appended to the <u>Policy for Acquisitions Allocations</u> approved by Senate Nov. 20, 1996.

A. "Each component's total is divided by the number of departments to provide a factor for that component."

Example: In 2003/2004 the total for the full year enrollment component is 12,322 divided by the 24 academic units (departments / programs) to provide an average of 513.42. This average is then divided into the unit's total enrollment e.g. Applied Human Nutrition has an enrollment total of 329 divided by 513.42 resulting in the "standardized enrollment" quotient of .64

"The number of departments is the number of different alphabetical course abbreviations unless departments have agreed to be combined (e.g. CHEM /PHYS, MATH/CMPS, Modern Languages: FREN/GERM/LING/SPAN)."

Comment:

In 2003/2004 there are 31 course prefixes in the calendar assigned to both departments and programs. The courses listed under Peace & Conflict Studies and Public Policy Studies use prefixes pertaining to cognate departments. The First-Year Seminar course (UNIV 1101) and the nine Cultural Studies courses (CULS) are not represented in the formula. Thus, the combination of departments or the omission of some programs reduces the number of allocation units from 31 to 24.

As far as I can ascertain, there is no formal process which determines whether a new program which has been assigned unique course prefixes will or should be accommodated by the formula. To date the library resource needs of Cultural Studies have been met using the General and Learning and Leading Funds. As a discipline eligible for selection as a major leading to a BA, Cultural Studies has tentative resource support.

Library support for new courses is solicited using a section of the Guidelines for New Course Offerings which reads as follows: " Library facilities: i) Has the bibliography been checked by the University Librarian? ii) Please enclose a copy of his comments. iii) State number of extra volumes / periodicals you expect to require. iv) Please state whether these are expected to be paid for from regular departmental allocations, or what other source of funding is available to you."

My experience checking course bibliographies over several years suggests to me that the additional resource needs of new courses, as presented to the librarian, are generally modest in scale, and can be met using current allocations. Often new courses are variations on courses previously listed in the calendar. Presumably, if the new course proves especially attractive, the higher enrollment for the department will be reflected in a higher formula quotient.

Although the resource needs of a new program may be significant, particularly for recently defined disciplines, the formal process similar to the one applied to a consideration of a new course is lacking. Collection development librarians agree that most new programs will eventually demand new resources even if this is not explicitly stated at the outset. Such a resource assessment is particularly crucial when a Ph.D program is being considered. The Academic Plan (p.12) refers to the proposal for a Ph.D in Educational Studies "currently before Senate." Does the Library have print and electronic collections sufficient to support an advanced program? Will the enhanced status of the Mount as an institution with a doctoral degree program attract higher license fees for access to databases?

Once the needs are determined, then the funding issue must be addressed. Will seed money be available before the program begins? Will the department or program be added to the list of academic units in the formula even though data may be missing to support every component? In the 1978/79 formula Public Relations and Secretarial Arts were listed even though only the enrollment and course quotients were entered in the matrix. Obviously the most effective response is to have sufficient funding in place for new subscriptions and a core collection before the first students arrive on campus. The least desirable response is to wait until CAPP reviews the new program and assesses its viability. It is conceivable a recently introduced program may fail to achieve its full potential, retain students, or attract new students, because library resources have not been acquired to support teaching and course work. If a program is under review the General Fund can provide required acquisitions, but only if the fund is augmented to the level

required. Although the Learning and Leading funds has been used for contingencies, it was never the Library's intention that they be used to support the resource needs of newly established programs.

6. Recommendation: That library funding for new programs be addressed by the University Librarian, the Dean, and other concerned parties with the intention that the procedure for assessing the resource needs and costs of new programs be formalized.

7. Recommendation: That the Cultural Studies program, having unique courses identified by the prefix CULS, and is thus in line with criteria for formula inclusion, be considered for addition to the list of academic units which are allocated a fund.

B. "The aggregate of factors for each component is then divided by five to reach an average of factors for each department."

Example: In 2003/04 using Applied Human Nutrition as our example, the standardized enrollment quotient of .64 is added to the quotients for the other four components, then divided by five to provide .972 as the average of standards for Applied Human Nutrition.

C. "The global sum available for the departments is divided by the number of departments to provide a monetary factor, and that amount is multiplied by the result obtained in B. to determine the total allocated to the department."

Example: In 2003/04 the global sum available for the 24 departments is $253,538. When the global sum is divided by 24, the average amount is $10,564.08. When this average is multiplied by the average of standards the resulting factor is the amount of money assigned to the department for book and periodical acquisition. In the case of Applied Human Nutrition $10,564.08 X .972 results in the allocation of $10,268.

Comment:
Compared with the calculations described in many published formulas, the Mount's is simple to explain and use. I can't see any reason to change the calculation at this time. If we decide to apply weights to data sets and some components, it will be important to maintain transparency to ensure the aforementioned rules of procedural fairness.

8. Recommendation: That the current calculation method be retained with the understanding that any revised procedures for data collection and weighting must be transparent enough to be seen as fair and equitable by all parties.

V.iii. MSVU Formula Components: Recommendations

The information in quotation marks is from the text appended to the <u>Policy for Acquisitions Allocations</u>.

"The formula consists of five equally weighted components, each of which is averaged, and then the five are averaged to reach the portion of the total funds that each department is allocated." [as explained in the previous section]

1. Enrollment

"This is the figure, by department, of the total number of students enrolled in all courses for which credit is given whether or not the course is given over the full academic year or only half. Thus, if an English course is identified as ENGL 3305 - Studies in Children's Literature I (given Sept. - Dec.) and ENGL 3306 - Studies in Children's Literature II (given Jan. -Apr.), the total number of students for both ENGL 3305 and ENGL 3306 is used even if the same student is in both courses. These numbers are provided by the Registrar's office as of the preceding 31 March."

Comment:
  As an internal component which is intended to quantify potential demand for library resources, student enrollment is one of the most widely accepted formula variables. However, enrollment data may be expressed in formulas as either total enrollment or a full-time equivalent. I believe that a part-time student, particularly a mature student or a graduate student, may have as great or even greater a need for library resources as a full-time student; FTE may not be as accurate an indicator as total enrollment. If enrollment totals are collected in the same way for all departments the fairness rule of consistency will be addressed.
  One common alternative to enrollment is a count of student credit hours. I have not discovered any unassailable argument for the selection of one over the other. Likely the choice is based largely on local conditions, e.g. what a Registrar can most readily provide. Both enrollments and credit hours indicate the relative population strengths of departments. Thomas Pierce argues that credit hours are a more accurate measure of departmental size when it can be determined that variable credit course hours have variable effects on library use.
  However, Pierce recommends total majors, i.e. the sum of graduate students and undergraduate majors, as the significant indicator of department size. He contends that the number of students concentrating their studies in a particular area, usually in upper-level courses, is a more reliable manifestation of library use than either enrollment or credit hours. Since the Mount's formula encompasses programs which do not permit the declaration of a major, e.g. Speech & Drama, Fine Arts and those in the Faculty of Professional Studies, a total majors component could not be universally applied.
  Two issues need to be addressed with respect to this component. The most important is the possible application of weights so that upper level student enrollments count for more than lower level enrollments. As explained earlier, arguments for formulas which assign higher weights to more advanced students are based on the premise (Pierce calls it an "educated guess") that departments with upper-level courses and graduate programs require more funds to meet the greater demand for advanced resources. Without recourse to calculating outcomes, it is reasonable to assume that the application of enrollment weights to the MSVU formula would increase funding to Applied Human Nutrition, Child and Youth Study, Education, Family Studies and

Gerontology, and Women's Studies at the expense of some undergraduate programs, in particular, those offered by departments with high enrollments in 1000 and 2000 level courses and low enrollments in upper level courses - Mathematics / Computer Studies is an example cited in the Academic Plan (p.17). This is borne out by the high ranking assigned to Maths under this component in the 2003/2004 allocation, when unweighted enrollment totals are considered alone.

My recommendation on the application of weights to enrollment categorized by each department's program level assumes that these counts are readily available from the Registrar and can be compiled as expeditiously as the total enrollment counts. As explained above, the assignment of weights has not been standardized, and in the absence of empirical data is often characterized as arbitrary by opponents.

It does seem appropriate that any discussion of library allocation formula acknowledges the Academic Plan's contention that "graduate programs and students remain either largely invisible or marginalized in the official documents, processes, and communications of the University" (p.22). The use of weights will acknowledge the principle of contribution in at least one university process.

A second issue is distance education course enrollment. Some formulas count enrollments in distance courses, at times assigning a lesser weight to these students than to on campus students. Again it may be argued that a student enrolled in a distance course may require resources equal to or in excess of those offered the majority population. Certainly, any decision to subscribe to an electronic journal or an e-book, and to pay a surcharge to provide electronic access to an existing print title, has the needs of the off campus population in mind. A 2002 survey by the Novanet Distance Education Working Group reported that 59.52% of Mount respondents taking courses off-campus indicated Halifax as their place of residence; perhaps it is more correct to refer to distributed learning, rather than distance learning, when referring to the academic needs of students whose family and workplace commitments limit, but do not fully curtail, the use of campus and library resources.

9. Recommendation: That the total enrollment component, if retained in the formula as an internal measure of *potential* demand, adopt weighting for undergraduate lower and upper level courses and graduate courses.

10. Recommendation: That distance students be included in the weighted enrollment totals compiled for the formula.

2. Calendar courses

"This is the total number of courses listed for each department regardless of whether or not the course is actually offered in any given year. In the example above, ENGL 3305 and ENGL 3306 would be counted as two courses. These numbers are taken from the calendar in effect as of the preceding 31 March."

Comment:

As in the example of total enrollment, the number of calendar courses listed in the MSVU Academic Calendar is a component which uses internal data to determine *potential* demand for library resources. Although one might anticipate a correlation between the departmental ranks established by total enrollment and courses, there are some notable disparities e.g. in the 2003/2004 allocation Psychology is in 3rd place for enrollment and in 10th place for listed courses, Modern Languages is in 11th place for enrollment and in 2nd place for listed courses. All sections of listed courses are used in the count. As explained in the definition, a half unit course has the same weight as a full unit course. This seems reasonable given the likelihood that a .5 credit unit course, offered during a single semester, will require unique materials.

In the surveys of formula components, course counts are less often cited than student credit hours, total enrollments, or total declared majors as a measure of potential demand. The literature usually refers to courses "offered" which may be interpreted as meaning either all courses listed in a calendar or courses that are actively taught during an academic year. Recent discussion on this matter in the Senate Library Committee suggests that there is some divergence of policy among departments: some departments ensure that all courses listed will be taught, while others also list courses in abeyance. With respect to the allocation formula, this works to the disadvantage of those departments which annually monitor their offerings.

In formulas using course counts, upper level and graduate courses may be assigned higher weights based on the same rationale as weighted enrollments or credit hours. As with weighted enrollments, my recommendation assumes the ready availability of course counts by program level from the Registrar's office; and the seemingly arbitrary application of weighting.

11. Recommendation: That the course count, if retained for the formula as an internal measure of *potential* demand, be based on courses taught, rather than courses listed, to address procedural fairness.

12. Recommendation: That weights be determined for undergraduate upper and lower level courses, graduate courses, and distance courses.

3. Material circulated

"This is the total number of items circulated within the Library of Congress classification ranges identified by the Library's collection unit as relevant to the departments over the academic year extending from the preceding 1 May - 30 April. This permits LC ranges (e.g. E 50 - E 150) to be counted by more than one department (e.g. both Sociology / Anthropology and Canadian Studies)."

Comment:
As the only internal component that measures the actual demand made on library resources by departments, the materials (books, videos) circulation component is significant, and is one of the most widely reported in formula surveys. William McGrath recommends that demand, as determined by use (i.e. circulation), should be the primary

factor in allocating funds, although he does admit that circulation data does not capture the need for books that a collection does not have.

Thomas Pierce cautions that use is determined as much by supply as by demand. Women's Studies has benefited from dedicated purchasing from the Women's Library Collection Centennial Project inaugurated in 1967 to the annual funds provided by the 1985 Petro-Canada Grant. The relatively small number of academic journals in the area meant that the Library could maintain a reasonably good list of core titles for a modest outlay as compared to our holdings in long established disciplines. The Library's early commitment to Women's Studies book selection ensured that for many years our collection was seen by other institutions in Nova Scotia as pre-eminent in the subject area, and is still considered so by many area students and faculty. In the 2003 / 2004 allocation, the Women's Studies Department is assigned 6th place for book loans and 21st place for enrollment. Using its departmental allocation (i.e. funds exclusive of the Petro-Canada Fund), it commits 62% to periodicals and 38% to monographs.

Pierce concludes that a poor collection will be used poorly. At first glance, the ranking in the 2003 / 2004 MSVU allocation seems to confirm Pierce's observation. The Business Administration Department ranks in 9th place for book loans and 2nd place for enrollment, the Psychology Department ranks in 12th place for book loans and 3rd place for enrollment. However, it is worth noting the context: by the end of fiscal year 2003, the two departments had spent most of their annual allocation on subscriptions. For Business 97% and for Psychology 98% of available funds are currently spent on periodicals. In most professional areas, a small collection of recent monographs will more likely attract heavy use than a larger collection of older materials. Paul Evan Peters states that 80% of materials in academic and research libraries that circulate do so "relatively soon" after they have been acquired. Thus, those departments with a strong commitment to periodicals will unlikely ever improve their ranking if the current formula component remains unchanged.

It seems reasonable that having decided in 1996 to extend the formula allocation to the purchase of periodicals, that the Library considers a more comprehensive collection of data to encompass use beyond book circulation. The additional use indicators suggested by the published literature include not only a count of periodicals usage, but also a tally of in-house use of materials and interlibrary loan requests.

To a greater or lesser extent each new data collection procedure involves more work than the current book loan count by LC class range generated by the Geac Advance System. The increased workload and the re-assignment of staff time and skills to this task can only be justified if additional counts are seen to enhance the collection development objectives of the formula.

- Periodical Use.

At present, non-classified periodicals, which are the majority, may not be borrowed; hence transaction records from Geac are not compiled for the formula. Short-term borrowing by faculty is permitted; each loan is recorded in a ledger by the borrower. A few years ago there was an attempt to gauge periodical use by stapling slips for user signatures into each current issue. The processing of these slips is time consuming, as well as difficult to sort by the appropriate department now that the shelf display is no longer sectioned off by discipline - current issues are now shelved alphabetically by title

with bound volumes. If regularly scheduled counts of in-house use were initiated we could include both books and periodicals. The class ranges defined for the Geac book loans count could be used for the in-house count of books. Each recorded in-library use of a non-classified periodical issue and bound volume would have to be assigned to a department by a member of the library staff with a thorough knowledge of both the current and "archived" periodicals collection.

- Interlibrary Loan and Document Delivery Requests.
    Although ILL data is not widely used in formulas, interlibrary loan requests can be said to address the contribution and need principles defined by Schad by providing evidence for a department's research effort. Since each department's use of ILL is already recorded by the Interlibrary Loans Assistant, the compilation should not add significantly to her workload. However, it will represent a small data set as compared to direct collection use and quite likely have a minimal effect on the final allocation.
    Mount faculty and students also use Novanet Express (N.E) to initiate online requests for materials from Novanet member libraries which are then delivered to the Library. While this activity is an indicator of student and faculty research needs (and effort) and could be credited to departments, I am cautious about suggesting a collection task which adds work to an already labour intensive service. If the Relais Management System replaces N.E, then the collection and sorting of data on Mount initiated requests might be less onerous.

- Reserve Loans.
The personal materials, library books, and photocopies on reserve by faculty and course number constitute a separate collection. Because each reserve item is barcoded, each use per course is recorded by the Geac System. This total could then be added to the library loans count for each department.

Counting Online Access

    To carry the compilation of use data to its logical conclusion, it might be worth considering the impact of access to electronic journals by Mount community members. Again, we must consider Lowry's admonition that "what counts easiest" e.g. database vendor usage statistics, "must not count most", i.e. skew the count from the use of print journals and print journals with electronic enhancement (p-e journals) carefully selected by our librarians and faculty to the use of a mixture of relevant and marginal e-journals which are conveniently offered in a subscription package. Repeated studies have shown that only 20 to 25% of the actual use of print periodicals is recorded in library statistics. Vendor statistics which indicate use of even the marginal titles in commercial databases must be assessed in light of the tendency for undergraduates and distance students to settle for something, or anything, in electronic format.
    Although many vendors provide use statistics by title, it would be difficult to link confidently the display and/or downloading of a full-text article from a database to a university department. Online access to a remote full-text database should not be counted as the equivalent of a loan. In the absence of a standard for usage reports, vendors may record as discrete article requests such incidental searching behaviour as double-clicking,

the use of forward and back browser buttons, and page refreshing. The widespread habit of downloading a full-text article as an html file, then again as a pdf page image, contributes to over counting.

More importantly, the major online e-journal collections to which we subscribe were not selected under the Library's collections development policy or justified using the statistics collected for the formula, but rather are a consequence of negotiations between various database vendors and the Canadian National Site Licensing Project (CNSLP) and the Council of Atlantic University Libraries (CAUL). Funds which have been set aside from the departmental budget allocation pay the license fees. As Packer observes, the question often asked is not "what is the best and most relevant material ...", but "what's available electronically that we can afford?" Even if it were possible to assign a digitized article to a department, it would be unfair to those many departments which still operate in a largely print environment and have yet to reap the benefit of desktop access to major online collections outside science, technology and medicine.

13. Recommendation: That the Material Circulated component, as the sole internal measure of *actual* demand, be re-named Library Use to acknowledge the application of the formula to both the circulation and in-house use of books and periodicals.

14. Recommendation: That the revised version (2004) of the Library of Congress class ranges used to compile book loan statistics by department replace the ranges currently in use. [Appendix B]

15. Recommendation: That consideration be given to a regularly scheduled collection of data on the in-house use of books using the categories already in place for book loans.

Note: There is a strong correlation between the subject categories of books used in-house and those borrowed. However, McGrath maintains that book circulation statistics are a stronger indicator of academic interest.

16. Recommendation: That faculty members' periodical loans 1 May - 30 April be added to book loans.

17. Recommendation: That Reserve loans by departments be compiled 1 May - 30 April and added to the circulation count for departments.

18. Recommendation: That the Library Staff work to identify an efficient method of compiling statistics on the in-house use of print periodicals.

19. Recommendation: That consideration will be given to crediting ILL requests by faculty and students to their home departments.

4. Monograph cost

"This is the total amount actually spent [and averaged] for each department over the fiscal year ending on the previous 31 March."

Note: Material format is irrelevant : a monograph purchased is usually a book, but any video, dvd, software package etc. is also included in the total **averaged** for each department.

Comment:

Unlike the other components which measure potential and actual demand, the cost component is the only one in place now which represents the supply side of the formula. When the collected data pertain to the book trade cost by discipline, it is one of the most commonly used components reported in the surveys. Monograph costs based on an average of internal book costs is rarely used. Among the formulas reproduced in Tuten /Jones, 18 use industry averages and only 2 use internal cost.

The notes to the 1977/1978 allocation formula indicate that average books costs were taken from the Bowker Annual (1976/1977 Edition). By the next year, the formula had opted for internal average costs. I have nothing in my file to explain this change; it was likely due to the problem of adapting Bowker data to our roster of programs (e.g. in 1977/78 the same cost was applied to all science books no matter the discipline), and the convenience of using invoiced costs in the manual environment of the day.

The use of internal costs for purchased and invoiced monographs is not without problems. It penalizes those departments attempting to manage costs by selecting less expensive editions. It is to a department's advantage to purchase costly items to keep its average cost quotient high. As a librarian at the University of Tasmania remarked: " It is ...important to use international figures, as internal figures can be manipulated with imprudent spending practices."

More significantly, in a formula where all components have equal weight, the failure to purchase a single monograph in a year registers as a zero amount which lowers a department's average of standards and its final allocation. The only recourse is for the collections development librarian to replace the zero with a published average for the discipline; this has been done at least once in the past when an average book cost from Choice was substituted for a missing value. If required in the future, this intervention must be done consistently and without bias in order to ensure procedural fairness.

There are published sources for monograph prices which we can use. In addition to the Bowker Annual and Choice, there are averages provided by YBP Library Services (Baker & Taylor) posted at *http://www.ybp.com* which are current and categorized by LC subclass (e.g. DA is a subclass of D = History for books published on British history). Another, and perhaps more useful approach, is to request customized reports from our suppliers - Midwest Library Service, John Coutts, Blackwell North America which could provide average costs for subjects arranged to correspond to MSVU programs. One of our challenges is to accurately reflect the range of subjects encompassed by interdisciplinary and multidisciplinary programs within the structure provided by the library classification scheme. It is by no means easy to discern those LC subclasses applicable to all aspects of Child and Youth Study, Information Technology, Canadian Studies, Women's Studies, Tourism and Hospitality Management, Public Relations, Speech and Drama etc.

It should be noted that there is considerable variation between the ranking established by internal book costs and that provided by the book trade statistics. In most

cases the trade costs exceed the internal cost e.g. for Economics the average internal cost in 02/03 was $52.40 CND, but the external cost reported by YBP Services for 02/03 was $111.10 CND. (In only four instances did internal costs exceed external.) This discrepancy might be explained by the inclusion in the published lists of costly monographs from European publishers like Kluwer, and the relative poor representation from Canadian publishers, and would likely be tempered if we decided to use average costs from John Coutts or Blackwell N.A.

20. Recommendation: That the Monograph Cost component, as an external measure of supply, be retained for the formula, and that the book trade average cost replace the internal average book cost to ensure that there is always a value to insert as part of the formula calculation, and to more clearly reflect the actual costs of scholarly publications. [Appendix C]

21. Recommendation: That the Monograph Cost component be renamed the Publication Cost component to encompass all material formats acquired by the Library. [see below]

5. Continuation cost

"This is the total amount actually spent for each department over the fiscal year ending on the previous 31 March."

Note: Format is irrelevant; the order must be an "open" order, i.e. periodical or standing order.

Comment:
        This is a curious and somewhat solipsistic component. Among the formulas I reviewed, this "internal" supply component appears to be unique to the Mount. Although it appears to address a department's need for funds to maintain a periodical subscription list, it actually pre-dates the extension of the allocation to cover periodicals by at least a decade.
        The component's effect may in fact be inimical to collection management and development since it encourages a department to retain its full list, to the extent that its annual allocation permits, in order to secure its position in the ranking. If a department decides to develop its monograph collection by cancelling one or more costly subscriptions or replace a title with a less costly equivalent, it will adversely affect the size of its standardized periodical score based on total expenditure (and its final allocation) with little positive effect on its standardized average book cost. Because there isn't a balancing component which ranks departments by total internal monograph expenditure, departments with strong commitments to monographs, e.g. Canadian Studies, Speech and Drama, and Fine Arts, are disadvantaged. Essentially this is a component which rewards a department for achieving a rank in the allocation based on how much it is able and willing to commit to periodical expenditure. There is no encouragement to change direction according to program needs: when the allocation for 03/04 is compared with the previous year, it is evident that the assigned rank shifts very little. Extreme inelasticity of demand is characteristic of periodicals, i.e.once a

subscription is initiated, demand is strong to maintain a subscription. While it is desirable to maintain a subscription for several years in order to insure strong runs of back volumes, the decision to retain or cancel should be based on evidence of need and use independent of the formula calculation.

If periodical expenditure is calculated in the same way as average monograph cost, then the ranking of departments is radically altered. Based on the average cost of subscriptions, the sciences achieve the highest score. As reported by American Libraries for 2002, the **average** subscription to a Chemistry periodical cost $1,520 U.S. or $2,386 CND (excluding the expensive Russian translations). However, in the Mount allocation the **total** expenditure by the department was $3,464 CND in that year; thereby assigning Chemistry a rank of 17 among 24 departments, not 1st among 24 if averages had been used. Some departments like Education and Business will lose their advantage if this component is dropped or revised since subscriptions in these disciplines are relatively inexpensive. However, the weighting of upper level enrollments and courses, and the inclusion of periodical use statistics in a Library Use component, would do much to counter the effect of eliminating this component from the formula for those departments with low average costs and high total print periodical expenditures.

That stated, the retention of the total internal cost component is hardly defensible if the formula is intended as a tool which supports collection management and development. Without jeopardizing their position in the allocation, departments should be encouraged to transfer funds to monograph purchasing; to review their current subscriptions lists, initiate cancellations, and consider replacing costly titles with acceptable, but less costly, alternatives; or to use interlibrary loan or document delivery to acquire articles from high cost, low use periodicals. Most importantly, the librarians and teaching faculty should create a formula component which recognizes the contribution of reform movements in scholarly communication such as SPARC (Scholarly Publishing and Academic Resources Coalition), an Association of Research Libraries initiative intended to challenge the extravagant pricing scales of commercial publishers by encouraging the dissemination of academic peer-reviewed titles which are either open access (i.e. free) or more modestly priced. The Chronicle of Higher Education reported the mass resignation of the editorial board of Labor History (Taylor & Francis subscription: $276 US) to create Labor: Studies in Working Class History of the Americas (Duke University: $180 US), a SPARC e-journal.

The workload required to compile an external list of discipline appropriate titles which approximate the Mount's needs might be challenging. The same problem for monographs obtains for periodicals: the LC subclasses used to categorize a published list of cost averages have to be massaged to make them conform to the interdisciplinary and multidisciplinary subject areas covered by our departments. Are published lists of periodicals with a Canadian focus easily identified for all disciplines? Is it appropriate to use lists which include European titles when our collection is predominantly English language and North American in publication? Reference tools such as the Ulrich's Directory may provide guidance after some time and effort.

If average costs are introduced for this component, there may be some merit in using internal periodical subscription averages instead of the "industry" average. Using an external average cost eliminates bias (and encourages economy) as in the case of monograph selection, but the obligation for departments to fund subscriptions to core

periodicals to sustain their program, while keeping within their allocation, diminishes the likelihood of skewed costs and obviates the necessity of identifying a relevant universe of appropriate titles and then calculating publication averages. A department's internal average periodical cost relative to other departments will likely correspond very closely to the external averages so that Chemistry, Mathematics and Biology will still register the highest averages among MSVU departments.

Before dismissing external sources out of hand, I recognize that Ebsco, the Library's subscription management service, may be able to generate average costs based on the Mount's unique collection profile. Indeed, the problem of compensating for a zero value, as mentioned above, can only be met using a published cost. In 2002/2003 Speech and Drama spent nothing on periodicals; thus adversely affecting its 2003/2004 allocation after the average of standards was applied to the budget.

22. Recommendation: That the Continuation Cost component, which assigns each department a rank determined by its total periodical expenditure, be replaced by a supply component for the average cost of periodicals by department. The Continuation Cost component, as presently calculated, measures neither internal demand nor external supply, and is inimical to a balanced collection development.

23. Recommendation: That the average external (**or** internal) cost of periodicals by department be added to the average external cost of monographs by department as part of a Publication Cost component. [Appendix C]

24. Recommendation: That the internal total expenditure on periodicals by each department will be considered as a fair source for each department's average periodical cost, if an efficient and reliable source of external averages is not identified by the Library.

V. iv. Publication Rate: A Second Supply Component

As discussed under "General Observations", I believe that it is desirable to achieve an equal balance between the demand and supply components of the formula. As an external supply component, publication rate acknowledges the fact that some disciplines publish more monographs and/or periodicals, and that there should be some attempt in the formula to recognize this fact. Blaise Cronin refers to the biorhythm of a discipline when referring to these different paces of knowledge creation.

The average annual cost may not be used as a surrogate: some disciplines generate many inexpensive publications, while others publish relatively few expensive monographs and periodicals. At the same time, publication rate attempts to address one of the major criticisms of the Library Use component - while it measures actual use, it fails to recognize the potential need for materials that have not been acquired for the collection. When introduced into the formula, it is intended to compensate departments which have to choose from an extensive range of publications; a recognition that some disciplines taught at the Mount are more publication dependent than others.

It must be admitted that publication rate is not used often in formulas. The challenge of data collection which requires the assignment of subject categories used by

the book trade and periodical directories to departments has already been mentioned in the discussion of sources for average book and periodical costs. As with average costs by discipline, it may be possible to obtain reports from the library vendors and the Ebsco subscription service which can serve our purpose.

V. v. Book / Serial Dependency Index

The University of Texas at Arlington has used publication rates to create a Book / Serial Dependency Index. The total monetary value of book and periodical publications in each discipline establishes a ratio which is intended to mirror the structure of the discipline's communication process and its characteristic citation pattern. At the very least, the collection of data to establish publication rates by discipline would provide information to guide a balanced collection development. It has been the practice at the Mount, since periodical funding was apportioned among departments, to permit each department to determine its own book / periodical ratio. This has resulted in a wide range of commitments from 100% expenditure on periodicals by Tourism and Hospitality to 100 % expenditure on monographs by Speech and Drama. The average ratio for all 24 departments is 64% periodicals / 36% monographs; this ratio changes to 67% / 33% when the Reference and General fund expenditures are added.

As with the so many other issues under discussion, the literature does not provide guidelines or standards. The Council of Australian University Librarians (CAUL) Survey in 1997 reported that the imposition of ceilings on periodical expenditure is quite common in Australian universities; the upper limit of 80% being most often recommended. A department is asked to cancel a title or titles if the limit is exceeded. Total periodical expenditure as a component in the Mount's formula does not encourage cancellation; indeed, it is in a department's interest to maintain its current commitment as far as its allocation permits. It would be unfair to impose a ceiling on periodical expenditure based on an overall average since needs vary by discipline, but a ratio suggested by each discipline's unique publication rate could provide a useful benchmark against which to compare our monograph / periodical balance.

25. Recommendation: That a second external supply component be added to the formula which recognizes the differences in publication rates among the departments' disciplinary fields.

26. Recommendation: That a Monograph / Periodical Dependency Index be created for each department which will serve to monitor local expenditures using a benchmark established for the universe of scholarly publication.

V. vi. Revised Allocation Formula: Summary

- A revised allocation formula should balance the internal components of demand with the external components of supply.

- The revised internal demand components should address both potential demand (enrollments and/or courses) weighted by program level, and actual demand (library use : circulation and in-house).

- The revised external supply components should indicate average publication cost ("industry" average is recommended), and publication rate as a new component.

- The Total Periodical (Continuation) Expenditures component should be eliminated.

The revised formula would have 5 components (if equally weighted = 20% each) if both enrollments and courses are retained as measures of potential demand, or 4 components (if equally weighted = 25% each) if only one measure of potential demand is retained.

V.vii. Workload

The revised formula, if implemented in full, would require an even greater commitment of time and labour to data collection and analysis by library staff and the Registrar's Office. Among the potential participants and responsibilities:

- University Librarian. Stephanie Walker: Overall co-ordination, including scheduling of data collection and quality control.

- Registrar: Student enrollments weighted by program level. Courses weighted by program level.

- Distance Learning and Continuing Education: Distance course counts and enrollments.

- Circulation Dept. Gaby Roughneen and Staff: Reserves loans by course. Faculty periodical loans by department.

- Interlibrary Loan Dept. Ann Pelley: ILL requests by department.

- Bibliographic Services Dept. Peter Glenister and Staff: Book circulation counts generated by Geac System. Liaison with vendors and Ebsco for publication rate and cost reports. Entry of Registrar and library data into allocation formula matrix.

- Collections Development Librarian. Terry Paris: Co-ordination of in-house periodical and book use counts. Evaluation of data sources for external publication costs and rates. Note: If the Serials Assistant position remains vacant, staff may have to be seconded from Bibliographic Services for in-house use counts.

Note: The collection of library materials use and cost data, while time/labour intensive and intended primarily for the allocation formula, will create a statistical database which should expedite the completion of reports for directories and external surveys.

V.viii. Departmental Achievement Component: A Case Study

      In 1932 Charles M. Baker, perhaps influenced by the eugenics movement of the day, recommended that evidence of the "vitality or aggressiveness of a department" should be an integral part of any fund allocation. Departmental achievement or research activity is a component which is used for some formulas as a useful marker of both contribution and need. It is more often considered than implemented. Many institutions have an incomplete record of faculty publications and presentations. A department's award of sponsored research monies may be added, although it is questionable as a true measure of a department's need for library resources.

      I thought it worth investigating for three reasons : 1. the biennial <u>Research Inventory</u> compiled by the Research Office appears to be a convenient, public source of data for this component, 2. the inclusion of this component explicitly links the Library collections budget with the scholarly enterprise of the university, and 3. by necessity, the Library and Research Office would communicate more often, and the collections development librarian, in particular, would have a greater appreciation of the research interests at MSVU.

      Having embarked on the project to determine a standardized research quotient, I encountered several obstacles:

- The <u>Research Inventory</u> is incomplete. For eleven departments, the <u>Web of Science</u> had to be used to supplement the publications list; for one department, 43% of article references were unique to the <u>WOS</u> database and thus missing from our inventory. However, the <u>WOS</u> alone is by no means a comprehensive resource: Canadian periodicals and periodicals for some disciplines (e.g. Child & Youth Study) are significantly under represented.

- The <u>Research Inventory</u>, even if complete, would be more useful with a controlled vocabulary. Since 1997, the inventory has adopted approximately 60 discrete headings for types of research activity.

- Publication alone would disadvantage many active departments. It would be necessary to include presentations, and further define which research categories are included or excluded from consideration. In instances of co-authorship with external colleagues, it may be impossible to accurately gauge the extent of a Mount department's contribution.

- Weights would have to be assigned to activity classes. While a monograph is clearly not equivalent to a book review, other equivalencies are not so easy to determine, e.g. the <u>Research Inventory</u> may class an analytical review with descriptive reviews even though such a review will likely require as much knowledge and effort as a research article.

- The individual or individuals assigned to categorize and weight research activity would have to be knowledgeable about the epistemic culture characteristic of each department, i.e. the amalgam of arrangements and mechanisms which makes up the creation and communication of knowledge in a discipline: from the collaborative research of physicists posted on an electronic preprint archives to the sole authorship of a scholarly monograph by an historian.

For the purpose of testing the effect of a Departmental Achievement component, I adopted the somewhat crudely defined weights used at the University of Maryland: a scholarly monograph is assigned ″1″ with three articles determined as the equivalent of a monograph. After applying these weights to the totals from the Research Inventory and the Web of Science, I discovered that this component serves best those departments with graduate programs, particularly if they attract external funding for research. Undergraduate programs in the professional areas will not benefit from this component even if they are library resource dependent. The component seems most applicable to institutions which have a comprehensive graduate studies program and which are oriented towards research and publication. It does not seem intended for institutions such as the Mount: "a primarily undergraduate, teaching university." (Academic Plan p. 9)

While this component appeals to me as one constituent element of a formula which explicitly recognizes that the scholarly enterprise of university faculty has a direct influence on the funding of the library's commitment to further scholarship, a preliminary assessment of the inventory and research categories would be required to ensure the fair and equitable use of supporting data. If it were adopted, I would recommend that it be assigned a smaller weight in the formula, in relation to the other components, until its effect and usefulness might be judged.

VI. Collection Management and Development in General

The 1990s witnessed a shift in the academic library from a public space, where most of the collections and services provided by the institution are readily available to any person who walks through its doors, to a private space exemplified by the work stations in an Information / Learning "Commons", where access to much current information is restricted by licensing contracts to a specified clientele (faculty and registered students) who have been assigned the prerequisite authentication by i.d. and password. The active role of the librarian as cataloguer and organizer of collections - Jean-Claude Guedon calls this work "applied epistemology" - has begun to shift to the passive role of gas jockey "holding the local nozzle of a universal knowledge pump" on behalf of database publishers. Even this attenuated role is in peril as more publishers market desktop access to full-text articles directly to individual students and researchers.

The 1989 Review of Formula asked the question - "Does the current allocations formula for acquisitions address the needs of our departments?" In 2004 further questions come to mind when we consider the needs of faculty and students in an evolving knowledge environment: one characterized by the interdisciplinary nature of scholarly inquiry even within traditional departments; office, lab and residence access to (but rarely ownership of) digitized research collections - electronic journals, and to a lesser extent, e-books; and the increasing influence of consortia / vendor negotiations, e.g. those involving Novanet, CAUL, and the Canadian National Site Licensing Project (CNSLP), on local collection planning decisions.

To what extent can (or should) our Library participate in regional and national resource-sharing initiatives? Does a formula-based allocation of funds to departments provide sufficient flexibility to address both the resource needs of Mount students and faculty and the new reality of scholarly communication? Partnerships, in particular

CNSLP, have allowed the library to provide its immediate clientele with a wide range of electronic resources which otherwise would have been beyond our budget to consider. However, it may be difficult to dissolve a link to a partnership if our defection, while justified by local needs, will adversely affect the overall price for the remaining members.

As licensing fees, for online subscriptions to provide desktop access to aggregator and vendor database packages, consume greater portions of the budget should funds be reserved to ensure continuing print resource acquisition and to provide access to selected electronic titles more appropriate to our special needs?

VI. i. Core Collections

The librarians who participate in selection in the MSVU Library support the principle that each constituent member of the Novanet consortium shall maintain and acquire core materials for both existing and new courses and programmes. A core collection is defined by the Guide to Cooperative Collection Development (American Library Association, 1994) as 'those essential reference, study, and basic research materials required by a library to carry out its essential mission and objectives."

On November 3, 1993 a Statement on Collection Responsibility was approved by the Novanet Executive Committee.

"While it is generally understood that Novanet facilitates resource sharing among member universities, each library of Novanet considers the needs of its own students to be its first priority. The Novanet Committee on Collections Development wishes to establish as a principle that each library will maintain and acquire those **core materials** which are necessary to support the courses and programmes offered at its institution. When determining the adequacy of library holdings for new courses and programs, Committee members will work with colleagues at other Novanet libraries to ensure that **essential core materials** are defined and that the impact of new courses and programs at institutions where curricula / collections overlap is accurately assessed. It is recommended that any new course or program proposal be considered jointly by the library and the curriculum committee or similar body at each institution."

The concept of core material selection requires that librarians and teaching faculty carefully review possible monograph and periodical acquisitions with the current and anticipated teaching and research needs of MSVU programs in mind, and to accept the responsibility to acquire basic materials for MSVU courses and programs without undue dependence on Novanet and regional collections. Knowledge of the discipline and the Mount's collection, and good judgment by the selectors will do much towards developing focused monograph holdings.

The development of a core periodical collection is more challenging. In recent years the citation analysis method introduced by the Institute for Scientific Information (ISI) has been used to define lists of core periodicals and has introduced the concept of high-impact periodicals i.e. those titles which are most often cited in the literature of a discipline. The convenience of accessing articles from a desktop work station has ensured that electronic titles from large commercial database vendors such as Kluwer and Elsevier have increased their impact by greater frequency of citation. It is more difficult to assemble a core list which represents titles that are published by non-profit organizations such as scholarly societies or academic departments and institutes, and may not be available in digitized formats, or may be freely available online as peer-reviewed open access journals entirely outside the commercial sphere.

VI. ii. Expenditure Trends

The Association of Research Libraries (ARL) has 16 Canadian institutions among its membership, of which 14 are academic libraries. In the period from 1986 to 2002, the ARL statistics for this group reveals that periodical expenditures increased by 199% (7.1% per annum) with the unit cost increasing by 118% (5% per annum). The number of periodicals purchased increased by 21%. By contrast, monograph expenditures increased by 24% (1.3% per annum) with the unit cost increasing by 60% (3% per annum). However, the number of purchased monographs **declined** over the period by 26% (minus 1.8% per annum). The average annual increase to the CPI from 1986 to 2002 was 3.2% : thus the average annual unit cost increase for periodicals exceeded the average annual increase in consumer prices while the average annual unit cost increase for monographs was slightly less.

Assuming that these rates are applicable to smaller non-ARL institutions, it is evident that a budget that has to accommodate escalating periodical costs (without comparable annual increases to its acquisitions budget) can only do so by either cancelling subscriptions or curtailing the acquisition of monographs. Given the inelasticity of demand which favours the continuation of subscriptions, the rate of monograph acquisition over the long term is expected to be adversely affected. Expenditures on periodicals and continuations as percentages of the total acquisitions funds spent by MSVU faculties in the 2003/2004 budget year-end (with 2002/2002 in parentheses) were: Arts 42% (41%); Social Sciences 69% (72%); Sciences 68% (76%) and Professional Studies 82% (84%) which seems to indicate that some departments are moving towards increased monograph purchasing. [Appendix D]

It should be noted that monographs are purchased from funds remaining after subscriptions are paid; hence the tendency for significant encumbrances to appear on the fund lines for monographs at the budget year end. If the funds encumbered and spent on monographs were added together then the percentage committed to periodicals and continuations would decrease for all departments.

VI. iii. Periodical Needs Assessment

I have attempted in my report on the allocation formula to provide evidence that the Continuation Cost component of our unrevised formula discourages the review and cancellation of print periodicals by buttressing the status quo. If a department wishes to initiate the cancellation of a title or its replacement with a less expensive equivalent, it will lower its quotient and adversely affect its final allocation. To date, most decisions have been made in response to a need by departments to accommodate subscription increases within a newly calculated annual allocation which varies somewhat from the previous year's total. Recently, print titles recommended for cancellation have tended to be those which have electronic versions accessible as full-text articles from a large commercial database such as Wiley InterScience, Elsevier ScienceDirect or Ebsco's Academic Search Elite.

My recommendation that the total cost be replaced by an average internal or external cost is intended to align the periodicals cost calculation with the one used for monographs, and to encourage a more frequent consideration of the content and quality of our current print periodical holdings by faculty.

Unfortunately, the librarians have organized the periodicals collection in a manner which hinders the task of critical evaluation title by title. In the Evaristus Library, and for a short period in the EMF Centre Library, the periodicals were displayed by department. Faculty could visit the Library and review those titles selected by their department as appropriate to current curricular and research needs. At present, the newly acquired issues are interfiled with the archived volumes in a single alphabetical sequence so that faculty and students can only locate a title if it is a known to them. The task of reviewing titles supported by the departmental allocation is tedious. The classified guide provided by the reference staff is unreliable since the headings sort titles by discipline not by departmental fund, and includes some titles which are no longer being acquired, but are still present in the stacks. The restoration of the current periodical display by department would:

- acknowledge the information-seeking behaviour of scholars as reported in recent studies,

[Note: for scholars in the social sciences and the humanities (and to a somewhat lesser extent the sciences) the browsing and monitoring of print collections are important activities which can be best served by a classified arrangement. Even though justified by local circumstances, interfiling in a single sequence serves the interests of librarians, not researchers.]

- facilitate a department's review of the mission and content of current print periodicals supported by its allocation to ensure that they still meet the teaching and research needs of Mount programs,

- expedite the collection of statistics on the in-house consultation of print periodicals by means of slips recording use which are stapled to each issue,

- encourage the use of peer-reviewed print sources in student assignments by circumventing the need to limit searches for articles in already identified titles, or to depend exclusively on commercial databases for downloaded articles. Covi and Cragin question relying on database vendors to assign scholarly "authority" to the electronic publications they offer.

The interfiling of current issues with previous volumes is justified as necessary under present conditions. Maintaining a current display consumes limited stack space. Interfiling saves processing time by allowing a library assistant to shelve and retrieve each title from one single location without the necessity of stamping each issue with a designated department. Tight stack space, the absence of an on-site or off-site storage facility, and a vacant serials assistant position all militate against a return to past practice.

VI. iv. Maintaining Print Resources

Print on paper is the preferred medium for concentrated and shared reading; indeed Abigail Sellen and Richard Harper in their book The Myth of the Paperless Office argue that much of the information available online needs to be printed in order to be read and understood. Certainly the value of serendipitous discovery is much reduced when faculty and students rely on the downloading of single articles, chapters or pages from a database.

With this in mind, it seems that textbooks will remain the core of most electronic book collections; it is unlikely that the e-book will soon replace the scholarly monograph for communication in the humanities and the social sciences. There is evidence to suggest that even among technical and scientific disciplines, this brave new electronic world assumes many forms. Kling and McKim's comparative study of the use electronic resources in three fields - high energy physics, molecular biology and information systems- leads them to question the idea that the shift towards a common exploitation of electronic media for scholarly communication is an "inescapable imperative". They concluded that the construction of trust and legitimate communication within a disciplinary tradition is an important social force which favours plurality and heterogeneity over convergence.

While no one can deny the appeal of electronic journals, or more accurately, the convenience of desktop access to periodical articles, issues around the preservation and access to archived digital collections remain unresolved. Even if the library is permitted to access older files from a remote or local server after a license has terminated, there may be technical infrastructure and continuing costs to consider. This uncertainty must be kept in mind when core print titles are cancelled in favour of electronic versions.

The ARL Collections and Access Issues Task Force (2002) reviewed several recent studies on the information-seeking behaviour of students and faculty. What they uncovered was the continuing importance of the printed page as a medium of scholarly communication. The Harvard University Library Survey of Harvard Seniors (Class of 2000) revealed that the highest percentage of resources used were print materials which students rated higher than electronic sources in four out of five factors. Although the percentage of print resources used was highest in the humanities (75%) and the social

sciences (69%), there was even a significant reliance on print resources by students in the natural sciences (65%). Although electronic resources rated highest on the factor of convenience, print resources rated highest on the factors pertaining to the quality of research and learning.

The Outsell Inc. Survey of over 3,000 students and faculty revealed a strong preference for a "hybrid information environment" in which electronic access to information does not supplant print information, but adds to the range of available resources. Librarians recognize this hybrid environment when they introduce portal software which permits simultaneous searches of online catalogues, licensed databases, and web sites, and thereby establish a bridge between print and electronic resources. Novanet Express, which permits Mount faculty and students to request online the delivery of print materials from other Novanet collections, is a local contribution to this hybrid environment. Kling and McKim cite "p-e journals", i.e. print periodicals with value-added electronic enhancements, as the fastest growing and most enriching area of recent scholarly communication.

The LibQUAL+ survey, conducted in 2002 by ARL in collaboration with Texas A&M University, asked 78,000 library users their perceptions of library service quality. Access to information was identified as the area needing most improvement with specific mention of complete runs of periodicals, comprehensive print collections, convenient hours, interdisciplinary resources and services, and efficient interlibrary loan. Again there is an appreciation for the library as a service which should balance tradition and innovation when supporting teaching and research in the academic community.

If the University considers that the continuing acquisition of print resources in general and print monographs in particular for all programs, both arts and science and professional, remains a worthy collection development objective, library policies and procedures, and the formula which allocates the budget, should be revised to facilitate this objective.

27. Recommendation: That the Collections Development Librarian assists those library co-ordinators and faculty who wish to develop print monograph collections, but lack the time and resources to evaluate the existing collection and review new materials for selection

28. Recommendation: That the Library studies the demand for and feasibility of displaying current print periodicals by surveying user opinion, and staff workload / space implications.

29. Recommendation: That the Library provides a document delivery service to those distance students without convenient access to Novanet Express to encourage and facilitate their use of our print collection.

30. Recommendation: That the Head of Bibliographic Services assigns to a cataloguer the task of converting the records for ceased and discontinued periodical titles into machine-readable form for display in the Novanet catalogue.

31. Recommendation: That the Collections Development Librarian identifies periodical backfiles which might be transferred off-campus once a storage facility has been designated.

32. Recommendation: That a department which cancels subscriptions to print periodical titles with the intention of releasing funds to purchase print monographs be permitted to use allocation funds for interlibrary loan requests for articles from cancelled titles.

Note: An ARL performance measures study found that the average cost of an ILL item transaction is $18.35 U.S. The average unit cost of purchase of a periodical subscription is $289 U.S. or $50.17 U.S. for a monograph. On average, a periodical would have to be used 16 times a year (or 19 times a year if processing charges are added to the periodical subscription cost) to make its purchase more cost effective.

VI. v. Conclusion

I believe that the fundamental challenge of collections development, which the Mount shares with other libraries, is to try to maintain a balance between:

- the library as a public space, and the library as a private space,
- the library as the owner and steward of print collections, and the library as the conduit for the distribution of electronic resources accessible under license,
- the library as a managed resource for a defined user community of registered students and faculty, and the library as a signatory to regional and national consortial initiatives to further resource sharing and cooperative collection development.

Our commitment to the strategic directions of Blueprint 2000, with its emphasis on distributed learning, combined with an appreciation of current trends in scholarly communication, and the real benefits derived from membership in Novanet, CAUL, and CNSLP, has caused the balance to be weighted in favour of the private, electronic, consortial side at the expense of the public, print, community-oriented side. It is unreasonable to expect that a revised allocation formula alone will restore a balance, but this challenge should be kept in mind when assessing the merit of my recommendations.

VII. Appendices

Appendix A

Recommendations

Component Selection

1.Recommendation: That a revised allocation formula select components which address the primary mandate of Library acquisitions: to maintain and develop collections which meet the teaching and research needs of departments within the fiscal realities established by scholarly communication practices and scholarly publication rates.

2. Recommendation: That the components of a revised allocation formula at MSVU reflect an equal balance of internal demand (the potential demand of the local population and the actual demand from library use data) and external supply (publication costs and publication rates) - the equal balance achieved by the number of components selected, or by weighting components.

3. Recommendation: That the internal demand components chosen for the formula equally balance potential demand (enrollments, courses taught), and actual demand (library use - both circulation and in-house).

4. Recommendation: That the supply components chosen for the formula equally balance average external costs for monographs and periodicals, and the size of the publication universe for each discipline.

Weighting

5. Recommendation: That the weighting of data be considered for the *potential* demand component to recognize the principles of contribution and need.

New Programs

6. Recommendation: That library funding for new programs be addressed by the University Librarian, the Dean, and other concerned parties with the intention that the procedure for assessing the resource needs and costs of new programs be formalized.

7. Recommendation: That the Cultural Studies program, having unique courses identified by the prefix CULS, and is thus in line with criteria for formula inclusion, be considered for addition to the list of academic units which are allocated a fund.

Formula Calculation

8. Recommendation: That the current calculation method be retained with the understanding that any revised procedures for data collection and weighting must be transparent enough to be seen as fair and equitable by all parties.

Demand Components

9. Recommendation: That the total enrollment component, if retained in the formula as an internal measure of potential demand, adopt weighting for undergraduate lower and upper level courses and graduate courses.

10. Recommendation: That distance students be included in the weighted enrollment totals compiled for the formula.

11. Recommendation: That the course count, if retained for the formula as an internal measure of potential demand, be based on courses taught, rather than courses listed, to address procedural fairness.

12. Recommendation: That weights be determined for undergraduate upper and lower level courses, graduate courses, and distance courses.

13. Recommendation: That the Material Circulated component, as the sole internal measure of actual demand, be re-named Library Use to acknowledge the application of the formula to both the circulation and in-house use of books and periodicals.

Measuring Demand

14. Recommendation: That the revised version (2004) of the Library of Congress class ranges used to compile book loan statistics by department replace the ranges currently in use. [Appendix C]

15. Recommendation: That consideration be given to a regularly scheduled collection of data on the in-house use of books using the categories already in place for book loans.

16. Recommendation: That faculty periodical loans from 1 May to 30 April be added to book loans.

17. Recommendation: That Reserve loans by departments be compiled 1 May - 30 April and added to the circulation count for departments.

18. Recommendation: That the Library Staff work to identify an efficient method of compiling statistics on the in-house use of print periodicals.

19. Recommendation: That consideration will be given to crediting ILL requests by faculty and students to their home departments.

Supply Components

20. Recommendation: That the Monograph Cost component, as an external measure of supply, be retained for the formula, and that the book trade average cost replace the internal average book cost to ensure that there is always a value to insert as part of the formula calculation, and to more clearly reflect the actual costs of scholarly publications.

21. Recommendation: That the Monograph Cost component be renamed the Publication Cost component to encompass all material formats acquired by the Library.

22. Recommendation: That the Continuation Cost component, which assigns each department a rank determined by its total periodical expenditure, be replaced by a supply component for the average cost of periodicals by department. The Continuation Cost component, as presently calculated, measures neither internal demand nor external supply, and is inimical to a balanced collection development.

23. Recommendation: That the average external (or internal) cost of periodicals by department be added to the average external cost of monographs by department as part of a Publication Cost component.

24. Recommendation: That the internal total expenditure on periodicals by each department be considered as a fair source for each department's average periodical cost, if an efficient and reliable source of external averages is not identified by the Library.

25. Recommendation: That a second external supply component be added to the formula which recognizes the differences in publication rates among the departments' disciplinary fields.

Collection Development

26. Recommendation: That a Monograph / Periodical Dependency Index be created for each department which will serve to monitor and inform local expenditure decisions using a benchmark established for the universe of scholarly publication.

27. Recommendation: That the Collections Development Librarian assists those library coordinators and faculty who wish to develop print monograph collections, but lack the time and resources to evaluate the existing collection and review new materials for selection.

Collection Use

28. Recommendation: That the Library studies the demand for and feasibility of displaying current print periodicals by surveying user opinion, and staff workload / space implications.

29. Recommendation: That the Library provides a document delivery service to those distance students without convenient access to Novanet Express to encourage and facilitate their use of our print collection.

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Appendix B

MOUNT SAINT VINCENT UNIVERSITY

INTER-OFFICE MEMORANDUM

To: Senate Library Committee (SLC)

From: Formula Sub-committee (FS)

Re: Review of Formula

Date: 10 October 1989

The FS (Mr. Bianchini, Dr. Stuart, Dr. Taylor) examined two issues.

1. Does the current allocations formula for acquisitions address the needs of our departments? If not, can the formula be revised so as to meet those needs equitably among our departments?

2. Many departments have pressed for additions to their periodical holdings. Can departments have greater flexibility in dividing their allocations between book and periodical budgets?

Investigation, some mathematical experimentation, and discussion provided a workable recommendation on the second issue, but not the first, at least for the present. Accordingly, the FS recommends to the SLC that regarding the second issue:

A department may assign up to 25% of its annual allocation increase for new periodical subscriptions. Orders must be placed by 15 October, or the funds will revert to the department's book budget.

*   departments that feel a greater reliance on periodicals for their work may build their   inventory over several years.

*   departments do not lose the funds if they choose against adding periodicals in their area   that year. They may add the following year, if they choose.

*   the proposal can easily be administered by library staff.

*   a notice to this effect would accompany the yearly notice of budget allocations.

*   departments must review their periodical holdings annually to insure maximum benefit   from their allocations.

On the second issue, several factors may be combined into a formula to allocate book budgets: enrolments; numbers of courses offered; level of course offerings; the average price per book in the various disciplines (range: $23.88 HEC to $62.19 CHE/PHY); the annual frequency of book publication in the disciplines (range: 1121 OAD to 8524 ENG); circulation data arranged by discipline; a base figure for historical budget levels; profiles as determined by professional evaluation of our needs and holdings.

Our efforts to combine various factors [resulted in] greater, rather than less inequities. To take sample departments:

Our calculations used four factors:
1. Enrolment   2. Courses Offered   3. Price/book   4. Publishing Data

Using all four,   ENG would fall from $4015 to $3139 (- 21%)
HIS would fall from $2605 to $2242 (- 14%)
CHE would rise from $1281 to $1965 (+ 53%)
OAD would rise from $1302 to $1708 (+ 31%)

Other calculations using different combinations of the factors for which we had collected data produced only marginal differences to the results given in the sample. Clearly such changes would not reflect needs as currently expressed in departmental submissions, comments, or orders. Equity, assuming for the moment that our proposed formula some such standard in objective terms, would come at the price of severe reductions in departments that rely heavily on books and increases for some who are not now spending all their book allocations.

For that reason, the FS recommends that we leave the current formula in place for now pending the results of studies to be conducted by the firm that handles our Approval Order Plan. That data may suggest another basis for revising our book allocation formula to meet best the needs of our departments.

With your permission, the FS will re-examine the matter once such data are available, and report to the SLC later this year.

L. Bianchini

Reginald C. Stuart

L. Brook Taylor

Appendix C

Library Loans: LC Subclasses Assigned to MSVU Departments (revised April 2005)

Source: LC Classification Outline and revised subclasses HM and ZA [40]

1. Arranged by Allocation Unit

Applied Human Nutrition

GT 2850 - GT 2920 Food and Nutrition: Cultural and Social Aspects
HD 9000 - HD 9490   Food Industry
QP 1- QP 981 Physiology
RA 565 - RA 602 Environmental Health. Food /Food Supply and Public Health
RA 773 - RA 788 Personal Health incl. Nutritional Aspects
RC 620 - RC 632 Nutritional Diseases. Metabolic Diseases
RC 648 - RC 869 Endocrinology. Respiratory Disease. Gastroenterology

RM 214 - RM 259 Diet Therapy. Vitamin Therapy
SB 1 - SB 1110 Plant Culture
SF 221 - SF 275 Dairying. Dairy Products
TP 248.13 - TP 248.65 Biotechnology
TP 368 - TP 699 Food Processing. Fermentation. Oils and Fats
TS 1950 - TS 2159 Animal Products. Cereals and Grains.
TX 341 - TX 946.5 Nutrition. Food Supply. Food Service.

Biology

GC 10- GC 1085 Oceanography. Marine Resources. Marine Pollution
GE 1 - GE 350 Environmental Sciences
GF 51 - GF 75 Human / Environmental Influences
Q 1 - Q 295 General Science
QH 1 - QH 705.5 General Natural History. Nature Conservation. Biology
QK 1- QK 989 Botany
QL 1 - QL 991 Zoology
QM 1 - QM 695 Human Anatomy
QP 1 - QP 981 Physiology. Metabolism. Biochemistry. Neuroscience.
QR 1 - QR 502 Microbiology. Immunology. Virology.
RA 565 - RA 602 Environmental Health. Air Pollution. Water Supply
RC 321 - RC 571 Neurosciences. Biological Psychiatry
RG 600 - RG 650 Embryo and Fetus
RJ 47.3 - RJ 47.4 Pediatrics : Genetic Aspects
S 900 - S 972 Conservation of Natural Resources
TD 1 - TD 1066 Environmental Technology

Business Administration

HD 28 - HD 70 Management
HD 1361 - HD 1395.5 Real Estate
HD 2721 - HD 8943 Industry. Labour
HE 7601 - HE 8700.9 Telecommunications Industry
HF 5001 - HF 6182 Business. Accounting. Advertising
HG 1 - HG 9999 Finance. Money. Credit. Insurance.
HJ 9701 - HJ 9945 Public Accounting. Auditing.
KE 331 - KE 3365 Canadian Business Law. Commercial Law. Product Liability.
KF 886 - KF 1250 U.S. Business Law. Insurance Law. Liability
T 55.4 - T 60.8 Operations Research. Management Information Systems.
TS 155 - TS 194 Production Management. Operations Management

Canadian Studies

E 75- E 99 North American Indians
F 1001 - F 1140 Canada - History

G 1115 - G 1193 Canada - Atlases
HC 111- HC 120 Canada - Economic Conditions and History
HN 100 - HN 110 Canada - Social Conditions
HQ 1451 - HQ 1459 Women - Canada
JL 1 - JL 550 Canada - Politics. Public Administration.
JS 1701 - JS 1800 Canada - Local and Municipal Government
JV 7200 - JV 7539 Canada - Emigration. Immigration. Migration
KE 1 – KE 9440 Law of Canada
KEN 206 to KEN 7971 Laws of Nova Scotia
SD 1 - SD 668 Forestry
SH 1 - SH 691 Fisheries
TN 1 - TN 997 Mining. Mineral Industries.

Chemistry and Physics

QB 1 - QB 991 Astronomy
QC 1- QC 999 Physics
QD 1- QD 999 Chemistry
QP 501 - QP 801 Biochemistry

Child and Youth Study

BF 712 - BF 724.85 Developmental Psychology
GV 423 - GV 452 Play. Physical Activity.
HQ 755.7 - HQ 799.9 Parenthood. Child Development. Adolescents.
HV 675 - HV 995 Protection, Assistance, Relief : Children and Youth
HV 1195 – HV 1441 Protection cont.
LB 1101 - LB 1602 Child Study. Early Childhood Education.
LC 3950 - LC 4806.5 Exceptional Children and Youth
N 105 - N 390 Art - Study and Teaching
RJ 1 - RJ 570 Pediatrics

Economics

HB 1 - HB 3840 Economic Theory. Demographics
HC 10 - HC 1085 Economics History and Conditions by Region and Country
HD 28 - HD 9999 Economic History and Conditions. Industry. Labour.
HF 1 - HF 4055 Commerce
HG 1 - HG 9999 Finance
HJ 9 - HJ 9945 Public Finance

Education

BF 712 - BF 724.85 Developmental Psychology
L 7 - L 991 Education (General)
LA 5 - LA 2396 History of Education

LB 5 - LB 3640 Theory and Practice of Education
LC 31 - LC 6581 Special Aspects of Education
LD 13 - LD 7501 Individual Institutions - U.S.
LE 3 - LE 78 Individual Institutions - Canada
Q 181 - Q 185.3 Science Education
QA 10 - QA 20 Mathematics Education
QA 101 - QA 141.8 Elementary Mathematics. Arithmetic

English

BH 1 - BH 301 Aesthetics
GR 1 - GR 950 Folklore
HF 5717 - HF 5734.7 Business Communication
PA 3051 - PA 8595 Classical Literature
PE 1 - PE 3729 English Language
PN 1 - PN 6790 Literary Criticism. History. Genres. Anthologies
PR 1 - PR 9899 English Literature incl. English-Canadian, Commonwealth
PS 1 - PS 3622 American (U.S.) Literature
PZ 5 - PZ 90 Children's Books
Z 278 - Z 549 Bookselling and Publishing
Z 1019 - Z 1039 Special Classes of Books and Readers

Family Studies and Gerontology

BF 724.5 - BF 724.85 Psychology of Aging
GF 1 - GF 900 Human Geography. Human Ecology
GT 1 - GT 6730 Manners and Customs. Private Life. Social Life.
HB 848 - HB 991 Demography and Vital Events
HB 1002 to HB 3697 Demography cont.
HG 178 - HG 179 Personal Finance
HM 131 - HM 291 Social Groups. Social Psychology
HN 100 - HN 110 Canada - Social Conditions
HQ 1 - HQ 2044 Family. Marriage. Women. Men. Life Skills.
HT 51 - HT 725 Cities and Communities
HV 1 - HV 5840 Social Services and Welfare
K 670 - K 709 Comparative Law : Domestic Relations
LC 5451 - LC 5493 Aged - Education
R 723 - R 726.8 Medical Ethics. Terminal Care. Dying
RA 411 - RA 418.5 Medical Care Plans. Social Medicine.
RA 773 - RA 790.9 Personal Health and Hygiene. Mental Health
RA 960 - RA 999 Medical Centres. Nursing Homes
RC 952 - RC 954.6 Geriatrics
TX 301 - TX 335 Households: Logistics, Finance, Management, Care

Fine Arts

BH 1 - BH 301 Aesthetics
ML 1 - ML 3930 Literature of Music. History and Criticism
MT 1 - MT 960 Musical Instruction and Study
N 1 – N 8985 Visual Arts
NA 109 – NA 9340 Architecture
NB 100 – NB 1952 Sculpture
NC 15 – NC 1883 Design. Illustration.
ND 30 – ND 3399 Painting
NE 100 – NE 2700 Print Media
NK 9 - NK 9771 Decorative and Applied Arts
NX 2 - NX 798 Arts in General. Visual Cultures. Cultural Policy
PN 1993 - PN 3307 Film Studies. Theatre Studies
TR 1 - TR 1050 Photography

History

C 1 - C 51 Auxiliary Sciences of History
CB 3 - CB 482 History of Civilization
CD 1 - CD 511 Diplomatics
CD 947 - CD 987 Archives
D 1 - D 2009 History (General)
DA 1 – DA 995 History of Great Britain
DB 1 - DB 2191 History of Austria and Region
DC 14 - DC 801 History of France
DD 5 – DD 901 History of Germany
DE 5 – DE 86 The Greco-Roman World
DF 27 – DF 802 History of Greece
DG 12 - DG 994 History of Italy
DJK 1 - DJK 51 History of Eastern Europe
DK 3 – DK 4442 History of Russia
DL 1 - DL 1018 History of Northern Europe
DP 17 – DP 702 History of Spain and Portugal
DR 20 – DR 2028 History of the Balkans
DS 1 - DU 819 History of Asia, Africa, Oceania
E 11 - E 904 History of America (General), U.S.
F 1 - F 975 U.S. Local History
F 1001 - F 1145.2 British America. Canada
G 149 - G 890 Voyages. Explorations.
GT 1 - GT 7070 Manners and Customs
HN 1 - HN 995 Social History and Conditions. Social Reform.
HT 851 - HT 985 Slavery
HT 1029 – HT 1445 Slavery cont.
HX 1 - HX 970.9 Socialism. Communism. Utopias. Anarchism
JV 1 - JV 5399 Colonies and Colonization

Information Technology

HF 5520 - HF 5548.6 Office Equipment. Office Management
HF 5717 - HF 5746 Business Communication. Records Management
Q 350 - Q 390 Information Theory
QA 75.5 - QA 76.9 Computers. Computer Software.
T 10.5 - T 60.8 Technical Information. Systems Analysis. Automation.
TK 5101 - TK 6720 Telecommunication incl. Internet, Local Area Networks
TK 7885 - TK 7895 Computer Hardware
Z 49 - Z 57 Keyboarding. Word Processing. Phonography.

Mathematics and Computer Studies

H 61 - H 62 Survey Design and Methodology
HM 529 - HM 538 Mathematical Sociology. Survey Methods
Q 300 - Q 390 Cybernetics
QA 1 - QA 699 Mathematics incl. Computer Science
T 57 - T 58.64 Applied Mathematics. Systems Analysis
TK 7885 - TK 7895 Computer Engineering. Hardware.

Modern Languages

DC 1- DC 34.5 France (General). Social Life and Customs
DP 1 - DP 53 Spain (General). Social Life and Customs.
F 1201 - F 3799 Latin America. Spanish America.
PC 2001 - PC 3701 French Language
PC 4001 - PC 4977 Spanish Language
PF 3001 - PF 5999 German Language
PQ 1 - PQ 3999 French Literature incl. French-Canadian Literature
PZ 23 - PZ 24.3 Children's Books in French

Philosophy

B 1 - B 5802 Philosophy (General)
BC 1 - BC 199 Logic
BD 10 - BD 701 Speculative Philosophy
BJ 1 - BJ 1725 Ethics

Political Studies

D 31 - D 34 General Political and Diplomatic History
E 741 - E 904 U.S. - Recent Political History
F 1001 - F 1140 Canada - History
HD 3611 - HD 4730.9 Industrial Policy
HD 7088 - HD 7250.7 Social Insurance. Social Security.
HJ 9 - HJ 9945 Public Finance

HM 1256 - HM 1281 Power. Leadership. Freedom. Pluralism. Non-Violence
HX 1 - HX 970.9 Socialism. Communism. Utopias. Anarchism
J 1 - J 981 General Legislative and Executive Papers
JA 1- JA 98 Political Science (General)
JC 11 - JC 607 Political Theory. Nationalism. Patriotism.
JF 20 - JF 2112 Political Institutions, Public Administration - General
JK 1 - JK 9993 Political Institutions, Public Administration - U.S.
JL 1 - JL 3899 Political Institutions, Public Admin. - Canada , Latin America
JN 1 - JN 9689 Political Institutions, Public Administration - Europe
JS 3 - JS 8500 Local and Municipal Government
JV 6001 - JV 9480 Emigration and Immigration. International Migration.
JX 1901 - JX 1995 Intl. Arbitration. Peace Movements. Conflict Resolution
K 201 - K 5582 Philosophy and Theory of Law. Comparative Law.
KE 1 – KE 9440 Laws of Canada
KEN 206 – KEN 7971 Laws of Nova Scotia
KF 4501 - KF 5130 U.S. Constitutional Law
KZ 22 - KZ 6785 Laws of the Nations
U 21 - U 22.3 War
U 263 - U 264.5 Atomic Warfare. Atomic Weapons
UB 1 - UB 900 Military Administration.

Psychology

BF 1 - BF 839.5   Psychology
HM 251 - HM 291 Social Psychology
HM 1011 - HM 1035 Social Psychology (revised)
HQ 10 - HQ 1090.7 Sexuality. Family. Sex Role
HV 1551 - HV 3024 Social Services for the Handicapped incl. Mental.
LB 1050.9 - LB 1091 Educational Psychology
LB 3050 - LB 3060.87 Educational Tests, Measurement and Evaluation
QL 750 - QL 795 Animal Behaviour and Psychology
RA 790 - RA 790.9 Mental Health
RC 321 - RC 571 Neurosciences. Biological Psychiatry.
RJ 499 - RJ 507 Mental Disorders of Children , Adolescents. Child Psychiatry

Public Relations

BF 636 - BF 637 Applied Psychology. Interpersonal Communication. Persuasion
HD 49.5 - HD 59.6 Crisis Management. Corporate Culture. P.R. Management
HE 7601 - HE 8700.9 Telecommunications Industry
HF 5717 - HF 5746 Business Communication
HG 174 - HG 177.5 Fund Raising
HM 251 - HM 291 Social Psychology incl Public Opinion, Public Relations

HM 866 - HM 886 Collective Behaviour. Mass Behaviour.
HM 1106 - HM 1126 Interpersonal Relations. Conflict.
HM 1181 - HM 1241 Attitude. Persuasion. Public Relations
P 87 - P 96 Communication. Mass Media
PN 101 - PN 245 Creative and Persuasive Writing.
PN 4699 - PN 5650 Journalism
TK 5101 - TK 6720 Telecommunications Technology
TR 624 - TR 835 Applied Photography. Photojournalism
Z 283 - Z 286   Newsletters. Desktop Publishing
Z 657 - Z 659 Press Freedom. Censorship
ZA 3040 - ZA 5185 Information Resources

Religious Studies

BJ 1188 - BJ 1295 Religious Ethics
BL 1 - BL 2790 Religion
BM 1 - BM 990 Judaism
BP 1 - BP 610 Islam. Bahaism
BQ 1 - BQ 9800 Buddhism
BR 1 - BR 1725 Christianity
BS 1 - BS 2970 The Bible
BT 10 - BT 1480 Doctrinal Theology
BV 1 - BV 5099 Practical Theology
BX 1 - BX 9999 Christian Denominations
HN 30 - HN 40 The Church and Social Problems
HQ 1051 - HQ 1057 The Church and Marriage
HQ 1073 - HQ 1073.5 Death and Dying
R 723 - R 726.8 Medical Ethics. Terminal Care. Dying

Sociology and Anthropology

E 51 - E 99 Pre-Columbian America. American Indians
GN 1 - GN 890 Anthropology incl. Ethnology, Prehistory
H 1 - H 99 General Social Sciences
HA 1 - HA 4737 Statistics
HB 848 - HB 3697 Demography and Vital Events
HD 6951 - HD 6957 Industrial Sociology
HM 1 - HM 1281 Sociology
HN 1 - HN 981 Social History. Social Problems. Social Reform
HQ 1 - HQ 2044 Family. Marriage. Feminism. Life Skills. Life Style.
HS 1 - HS 3371 Societies : by Occupation, Special Classes etc.
HT 51 - HT 725 Communities. Classes. Races
HT 1505 – HT 1595 Communities …cont.
HV 1 - HV 9960 Social Pathology. Social and Public Welfare. Criminology
JV 6001 - JV 9480 Emigration and Immigration. International Migration

K 1700 - K 1970 Comparative Law : Social Legislation
LC 31 - LC 96 Social Aspects of Education
LC 111 – LC 245 Social Aspects … cont.
RA 411 - RA 418.5 Social Medicine. Medical Sociology
U 21 - U 22.3 Military Sociology
UB 416 - UB 419 Minorities and Women in the Armed Forces

Speech and Drama

BF 636 - BF 637 Applied Psychology. Interpersonal Communication. Persuasion
P 301 - P 305 Rhetoric. Discourse Analysis
PN 1600 - PN 3307 Drama and Dramatic Representation
PN 4001 - PN 4355 Oratory. Elocution. Public Speaking

Tourism and Hospitality Management

G 149 - G 180 Travel. Tourism
GV 1 - GV 1860 Recreation. Leisure
TX 901 - TX 985 Hotels, Restaurants etc. Food Service. Building Operations.

Women's Studies

CT 3200 - CT 3830 Biography of Women (Collective)
GT 1 - GT 7070 Manners and Customs incl. Food Customs
HD 6050 - HD 6223 Women in the Workplace
HQ 10 - HQ 1075.5 Sexuality. Family. Marriage. Sex Role
HQ 1101 - HQ 2039 Women. Feminism. Women's History. Life Skills
HV 1442 - HV 1493 Social Services for Women, Minorities
JF 849 - JF 855 Suffrage
JX 1965 Women in the Peace Movement
LC 1401 - LC 2572 Education of Women
N 7630 - N 7639 Women in Art
PN 1993 - PN 1999 Film Studies
RG 1 - RG 991 Conception. Contraception. Pregnancy. Maternal Care
UB 416 - UB 419 Women and Minorities in the Armed Forces

2. Arranged by Call Number

B 1 - BD 701   Philosophy
BF 1 - BF 839.5   Psychology
BF 636 - BF 637   Public Relations
BF 636 - BF 637   Speech & Drama
BF 712 - BF 724.85   Child & Youth Study
BF 712 - BF 724.85   Education

BF 724.5 - BF 724.85	Family Studies & Geront.
BH 1 - BH 301	English
BH 1 - BH 301	Fine Arts
BJ 1 - BJ 1725	Philosophy
BJ 1188 - BX 9999	Religious Studies
C 1 - CD 4280	History
CT 3200 - CT 3830	Women's Studies
D 1 - D 2009	History
D 31 - D 34	Political Studies
DA 1 - DR 2285	History
DC 1 - DC 34.5	Modern Languages
DP 1 - DP 53	Modern Languages
DS 1 - DU 819	History
E 11 - E 904	History
E 51 - E 99	Sociology & Anthro.
E 75 - E 99	Canadian Studies
E 741 - E 904	Political Studies
F 1 - F 1145.2	History
F 1001 - F 1140	Canadian Studies
F 1001 - F 1140	Political Studies
F 1201 - F 3799	Modern Languages
G 149 - G 890	History
G 149 - G 180	Tourism & Hosp.
G 1115 - G 1193	Canadian Studies
GC 401 - GE 350	Biology
GF 1 - GF 900	Family Studies & Geront.
GF 51 - GF 75	Biology
GN 1 - GN 890	Sociology & Anthro.
GR 1 - GR 950	English
GT 1 - GT 7070	History
GT 1 - GT 7070	Women's Studies
GT 1 - GT 6730	Family Studies & Geront.
GT 2850 - GT 2920	Applied Human Nutrition
GV 1 - GV 1860	Tourism & Hosp.
GV 423 - GV 452	Child & Youth Study
H 1 - H 99	Sociology & Anthro.
H 61 - H 62	Maths & Computer Studies
HA 1 - HA 4737	Sociology & Anthro.
HB 1 - HB 3840	Economics
HB 848 - HB 3697	Family Studies & Geront.
HB 848 - HB 3697	Sociology & Anthro.
HC 10 - HC 1085	Economics
HC 111- HC 120	Canadian Studies
HD 28 - HD 9999	Economics
HD 28 - HD 70	Business Admin.
HD 49.5 - HD 59.6	Public Relations

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HD 1361 - HD 8943    Business Admin.
HD 3611 - HD 4730.9 Political Studies
HD 6050 - HD 6223   Women's Studies
HD 6951 - HD 6957   Sociology & Anthro.
HD 7088 - HD 7250.7 Political Studies
HD 9000 - HD 9490    Applied Human Nutrition
HE 7601 - HE 8700.9 Business Admin.
HE 7601 - HE 8700.9  Public Relations
HF 1 - HF 4055       Economics
HF 5001 - HF 6182    Business Admin.
HF 5520 - HF 5746    Information Tech.
HF 5717 - HF 5734.7 English
HG 1 - HG 9999       Business Admin.
HG 1 - HG 9999       Economics
HG 174 - HG 177.5    Public Relations
HG 178 - HG 179      Family Studies & Geront.
HJ 9 - HJ 9945       Economics
HJ 9 - HJ 9945       Political Studies
HJ 9701 - HJ 9945    Business Admin.
HM 1 - HM 299        Sociology & Anthro.
HM 131 - HM 291      Family Studies & Geront.
HM 251 - HM 291      Psychology
HM 251 - HM 291      Public Relations
HM 401 - HM 1281     Sociology & Anthro.
HM 529 - HM 538      Maths & Computer Studies
HM 821 - HM 1281     Family Studies & Geront.
HM 866 - HM 886      Public Relations
HM 1011 - HM 1035 Psychology
HM 1106 - HM 1126 Public Relations
HM 1181 - HM 1241 Public Relations
HM 1256 - HM 1281 Political Studies
HN 1 - HN 981        Sociology & Anthro.
HN 1 - HN 995        History
HN 30 - HN 40        Religious Studies
HN 100 - HN 110      Canadian Studies
HN 100 - HN 110      Family Studies & Geront.
HQ 1 - HQ 2044       Family Studies & Geront.
HQ 1 - HQ 2044       Sociology & Anthro.
HQ 12 - HQ 1075.5    Women's Studies
HQ 12 - HQ 1090.7    Psychology
HQ 775.7 - HQ 799.9 Child & Youth Study
HQ 1051 - HQ 1057    Religious Studies
HQ 1073 - HQ 1073.5 Religious Studies
HQ 1101 - HQ 2039    Women's Studies
HQ 1451 - HQ 1459    Canadian Studies
HS 1 - HT 1595       Sociology & Anthro.
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HT 51 - HT 485	Family Studies & Geront.
HT 851 - HT 1445	History
HV 1 - HV 9960	Sociology & Anthro.
HV 1 - HV 5840	Family Studies & Geront.
HV 701 - HV 1441	Child & Youth Study
HV 1442 - HV 1493	Women's Studies
HV 1551 - HV 3024	Psychology
HX 1 - HX 970.9	History
HX 1 - HX 970.9	Political Studies
J 1 - JF 2112	Political Studies
JF 849 - JF 855	Women's Studies
JK 1 - JL 3899	Political Studies
JL 1 - JL 550	Canadian Studies
JN 1 - JS 8500	Political Studies
JS 1701 - JS 1800	Canadian Studies
JV 1 - JV 5399	History
JV 6001 - JV 9480	Political Studies
JV 6001 - JV 9480	Sociology & Anthro.
JV 7200 - JV 7539	Canadian Studies
JX 1901 - JX 1995	Political Studies
JX 1965	Women's Studies
K 201 - K 5582	Political Studies
K 670 - K 709	Family Studies & Geront.
K 1700 - K 1970	Sociology & Anthro.
KE 1 - KEZ 9999	Canadian Studies
KE 1 - KEZ 9999	Political Studies
KE 913.5 - KE 1285	Business Admin.
KF 886 - KF 1250	Business Admin.
KF 4501 - KF 5130	Political Studies
KZ 22 - KZ 6785	Political Studies
L 7 - LB 3640	Education
LB 1050.9 - LB 1091	Psychology
LB 1101 - LB 1602	Child & Youth Study
LB 3050 - LB 3060.87	Psychology
LC 8 - LC 6691	Education
LC 65 - LC 245	Sociology & Anthro.
LC 71 - LC 182	Political Studies
LC 1401 - LC 2572	Women's Studies
LC 3950 - LC 4806.5	Child & Youth Study
LC 5451 - LC 5493	Family Studies & Geront.
LD 13 - LE 78	Education
ML 1 - MT 960	Fine Arts
N 1 - NE 3002	Fine Arts
N 81 - N 390	Child & Youth Study
N 7630 - N 7639	Women's Studies
NK 1 - NX 820	Fine Arts

P 87 - P 96	Public Relations
P 301 - P 305	Speech & Drama
PA 3051 - PA 8595	English
PC 2001 - PC 4977	Modern Languages
PE 1 - PE 3729	English
PF 3001 - PF 5999	Modern Languages
PN 1 - PN 6790	English
PN 101 - PN 245	Public Relations
PN 1600 - PN 3307	Speech & Drama
PN 1993 - PN 3307	Fine Arts
PN 1993 - PN 1999	Women's Studies
PN 4001 - PN 4355	Speech & Drama
PN 4699 - PN 5650	Public Relations
PQ 1 - PQ 3999	Modern Languages
PR 1 - PZ 90	English
PZ 23 - PZ 24.3	Modern Languages
Q 1 - Q 295	Biology
Q 181 - Q 185.3	Education
Q 300 - Q 390	Maths & Computer Studies
Q 350 - Q 390	Information Tech.
QA 1 - QA 699	Maths & Computer Studies
QA 10 - QA 20	Education
QA 75.5 - QA 76.9	Information Tech.
QA 101 - QA 141.8	Education
QB 1 - QD 999	Chemistry & Physics
QH 1 - QL 991	Biology
QL 750 - QL 795	Psychology
QM 1 - QM 695	Biology
QP 1 - QP 981	Applied Human Nutrition
QP 1 - QP 981	Biology
QP 501 - QP 801	Chemistry & Physics
QR 1 - QR 502	Biology
R 723 - R 726.8	Family Studies & Geront.
R 723 - R 726.8	Religious Studies
RA 411 - RA 418.5	Family Studies & Geront.
RA 411 - RA 418.5	Sociology & Anthro.
RA 565 - RA 602	Applied Human Nutrition
RA 565 - RA 602	Biology
RA 773 - RA 790.9	Family Studies & Geront.
RA 773 - RA 788	Applied Human Nutrition
RA 790 - RA 790.9	Psychology
RA 960 - RA 999	Family Studies & Geront.
RC 321 - RC 571	Biology
RC 321 - RC 571	Psychology
RC 620 - RC 869	Applied Human Nutrition
RC 952 - RC 954.6	Family Studies & Geront.

RG 1 - RG 991	Women's Studies
RG 600 - RG 650	Biology
RJ 1 - RJ 570	Child & Youth Study
RJ 47.3 - RJ 47.4	Biology
RJ 499 - RJ 507	Psychology
RM 214 - RM 259	Applied Human Nutrition
S 900 - S 972	Biology
SB 1 - SB 1110	Applied Human Nutrition
SD 1 - SD 668	Canadian Studies
SF 221 - SF 275	Applied Human Nutrition
SH 1 - SH 691	Canadian Studies
T 10.5 - T 60.8	Information Tech.
T 55.4 - T 60.8	Business Admin.
T 57 - T 58.64	Maths & Computer Studies
TD 1 - TD 1066	Biology
TK 5101 - TK 6720	Information Tech.
TK 5101 - TK 6720	Public Relations
TK 7885 - TK 7895	Information Tech.
TK 7885 - TK 7895	Maths & Computer Studies
TN 1 - TN 997	Canadian Studies
TP 248 .13 - TP 248.65	Applied Human Nutrition
TP 368 - TP 699	Applied Human Nutrition
TR 1 - TR 1050	Fine Arts
TR 624 - TR 835	Public Relations
TS 155 - TS 194	Business Admin.
TS 1950 - TS 2159	Applied Human Nutrition
TX 301 - TX 335	Family Studies & Geront.
TX 341 - TX 946.5	Applied Human Nutrition
TX 901 - TX 985	Tourism & Hosp.
U 21 - U 22.3	Political Studies
U 21 - U 22.3	Sociology & Anthro.
U 263 - U 264.5	Political Studies
UB 21 - UB 900	Political Studies
UB 416 - UB 419	Sociology & Anthro.
UB 416 - UB 419	Women's Studies
Z 49 - Z 102	Information Tech.
Z 278 - Z 549	English
Z 283 - Z 286	Public Relations
Z 657 - Z 659	Public Relations
Z 1019 - Z 1039	English
ZA 3040 - ZA 5185	Public Relations

Appendix D

Materials Cost (External) Component : a draft

The quotients in parentheses are calculated using U.S. prices (2002) reported by YBP Library Services for monographs [41] and <u>American Libraries</u> for periodicals [42]. For departments which are not easily defined using LC subclasses, the price is an average of classes, e.g. Applied Human Nutrition uses costs for Physiology (QP), Therapeutics (RM), and Home Economics (TX).

Department	Avg. Book Cost ($)	Avg. Per. Cost ($)	Avg. Quotient
1. App. Human Nutr.	68 (1.17)	261 (1.10)	1.14
2. Biology	78 (1.34)	458 (1.92)	1.63
3. Business Admin.	59 (1.02)	141 (.59)	.81
4. Canadian Stud	35 (.98)	57 (.24)	.61
5. Chemistry	159 (2.74)	1520 (6.39)	4.57
6. Child & Youth	48 (.83)	270 (1.13)	.98
7. Economics	71 (1.22)	288 (1.21)	1.22
8. Education	46 (.79)	127 (.53)	.66
9. English	35 (.60)	50 (.21)	.41
10. Fam Std/ Geron	59 (1.02)	194 (.81)	.92
11. Fine Arts	48 (.83)	55 (.23)	.53
12. History	39 (.67)	73 (.31)	.49
13. Info. Tech.	59 (1.02)	141 (.59)	.81
14. Mathematics	68 (1.17)	603 (2.53)	1.85
15. Modern Lang	41 (.71)	64 (.27)	.49
16. Philosophy	60 (1.03)	136 (.57)	.80
17. Political Studies	48 (.83)	180 (.76)	.80
18. Psychology	49 (.84)	351 (1.47)	1.16
19. Public Relations	71 (1.22)	108 (.45)	.84

20. Religious Stud.	48 (.83)	50 (.21)	.52
21. Soc. Anthro.	71 (1.22)	251 (1.05)	1.14
22. Speech Drama	43 (.74)	81 (.34)	.54
23. Tourism & Hosp.	45 (.78)	51 (.21)	.50
24. Women's Stud.	46 (.79)	194 (.81)	.80
Totals	1394	5704	
Average cost	58	238	

Appendix E

Book / Periodical Expenditures by Department

I have chosen the percentages of total funds spent at year-end on periodicals and books as the best indicator of the actual commitment to a category of material by each department. An alternate approach would be to calculate periodical expenditures as a percentage of each total assigned allocation. Unfortunately this distorts the picture of selection patterns since some departments choose to select few (or no) monographs even though allocated funds remain available for this purpose or continue to select monographs even though overspent on the periodicals line.

The percentages are calculated based on funds spent, i.e. not the sum of encumbered + spent. Book expenditure percentages would increase for all departments (including THM in 2003/04) if encumbered monograph totals were added to spent monograph totals.

Standing orders (continuations) have been included with periodicals.

Year End Report: **March 2003**

I. Professional Studies

Business Administration: Books 1% Period. 99%
Child and Youth Study: Books 25% Period. 75%
Education: Books 9% Period. 91%
Family Studies & Gerontology: Books 7% Period. 93%
Applied Human Nutrition: Books 8%   Period. 92%
Information Technology: Books 44% Period. 56%
Public Relations: Books 38% Period. 62%

Tourism and Hospitality Management Books 0% Period. 100%

Average: Books 16% Period. 84%

II. Arts and Science

Biology: Books 9% Period. 91%
Canadian Studies: Books 76% Period. 24%
Chemistry & Physics: Books 18% Period. 82%
Economics: Books 52% Period. 48%
English: Books 36%   Period. 64%
Fine Arts: Books 77% Period. 23%
History: Books 48% Period. 52%
Mathematics & Computer Studies: Books 45% Period. 55%
Modern Languages & Linguistics: Books 66% Period. 34%
Philosophy: Books 16% Period. 84%
Political Studies: Books 27% Period. 73%
Psychology: Books 2%   Period. 98%
Religious Studies: Books 56% Period. 44%
Sociology & Anthropology: Books 26%   Period. 74%
Speech & Drama: Books 100% Period. 0%
Women's Studies: Books 32%   Period. 68%

Average: Books 43% Period. 57%

III. Library Funds

General: Books 62%   Period. 38%
Reference: Books 7%   Period. 93%

Year-End Report **March 2004**

I. Professional Studies

Business Administration: Books 3% Period. 97%
Child & Youth Studies: Books 17% Period. 83 %
Education: Books 9% Period. 91%
Family Studies & Gerontology: Books 10% Period. 90%
Applied Human Nutrition: Books 14% Period. 86%
Information Technology: Books 66% Period. 34%
Public Relations: Books 25% Period. 75%
Tourism & Hospitality: Books 0% Period. 100%

Average: Books 18% Period. 82%

II. Arts and Science

Biology: Books 22% Period. 78%
Canadian Studies: Books 91% Period. 9%
Chemistry & Physics: Books 10% Period. 90%
Economics: Books 22% Period. 78%
English: Books 28% Period. 72%
Fine Arts: Books 80% Period. 20%
History: Books 48% Period. 52%
Mathematics & Computer Studies: Books 63% Period. 37%
Modern Languages & Linguistics: Books 57% Period. 43%
Philosophy: Books 2% Period. 98%
Political Studies: Books 57% Period. 43%
Psychology: Books 2% Period. 98%
Religious Studies: Books 60% Period. 40%
Sociology & Anthropology: Books 37% Period. 63%
Speech & Drama: Books 100% Period. 0%
Women's Studies: Books 38% Period. 62%

Average: Books 45% Period. 55%

III. Library Funds

General: Books 59% Period. 41%
Reference: Books 4% Period. 96%

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