

Trueswell's Weeding Technique: The Facts

Recent commentary in library journals concerning Richard W. Trueswell's "weeding" technique provides a spectrum of opinion. The interpretations range from those cursing it to those applauding it. Unfortunately, too much of what has appeared in the literature has been in error, and to correct these mistakes this article reviews Trueswell's basic method, introduces possible application areas, and addresses a number of popular misconceptions.

RICHARD W. TRUESWELL has become a celebrity in library circles. This is due, at least in part, to some rather astonishing written reports based on his published work that deals with the use of the last circulation date in identifying low-circulation and -use books.¹⁻¹² His approach is tantalizingly simple, can be used to slash certain circulation-related system costs, and has clear implications for reducing expansion costs. However, his work has been misunderstood by librarians, misinterpreted by library administrators, and mishandled by researchers.

"Poor Richard" should start his own almanac for publishing annual predictions of the curious commentary to appear over the next twelve months. Perhaps this paper would make a suitable preface for such an almanac as it serves to correct the record without discouraging constructive criticism.

Much has been written in the recent past about the "Trueswell" approach and its connection with increasing performance rates (the proportionate amount of time a patron finds what is wanted when it is wanted). For instance, a symposium published in *The Journal of Academic Librarianship* explored the connection between his approach and the "zero-growth" concept.¹³

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In fact, the most recent published review of his work appeared in these pages in the September 1979 issue,¹⁴ together with a rejoinder by Trueswell.¹⁵ Most of these reports and investigations have been "far off the mark" in their interpretations of Trueswell's methods, and they have often extrapolated from "facts" that Trueswell never established. The *real* facts of the matter are the object of this report. We can best serve them by starting with an introductory explanation of Trueswell's basic "technique."

THE FUNDAMENTALS OF TRUESWELL'S TECHNIQUE

Trueswell's technique relies upon the comparison of two curves that are constructed by calculating the time elapsed since the last due-date for books in circulation and for books in the stacks. An illustration of the curves is shown in figure 1. We can use these curves to determine the proportion of books in the stacks that are responsible for satisfying any given proportion of the number of future circulations of books from the *current* set of books in the stacks. This is done by relating the points of intersection of the two curves with any vertical line as shown in figure 1.

For example, figure 1 indicates that 96 percent of the books currently circulating are being drawn from a subset of books in the stacks that represent only 65 percent of the books available for circulation. This 65 percent of the books available for circulation can be identified by the fact that they all

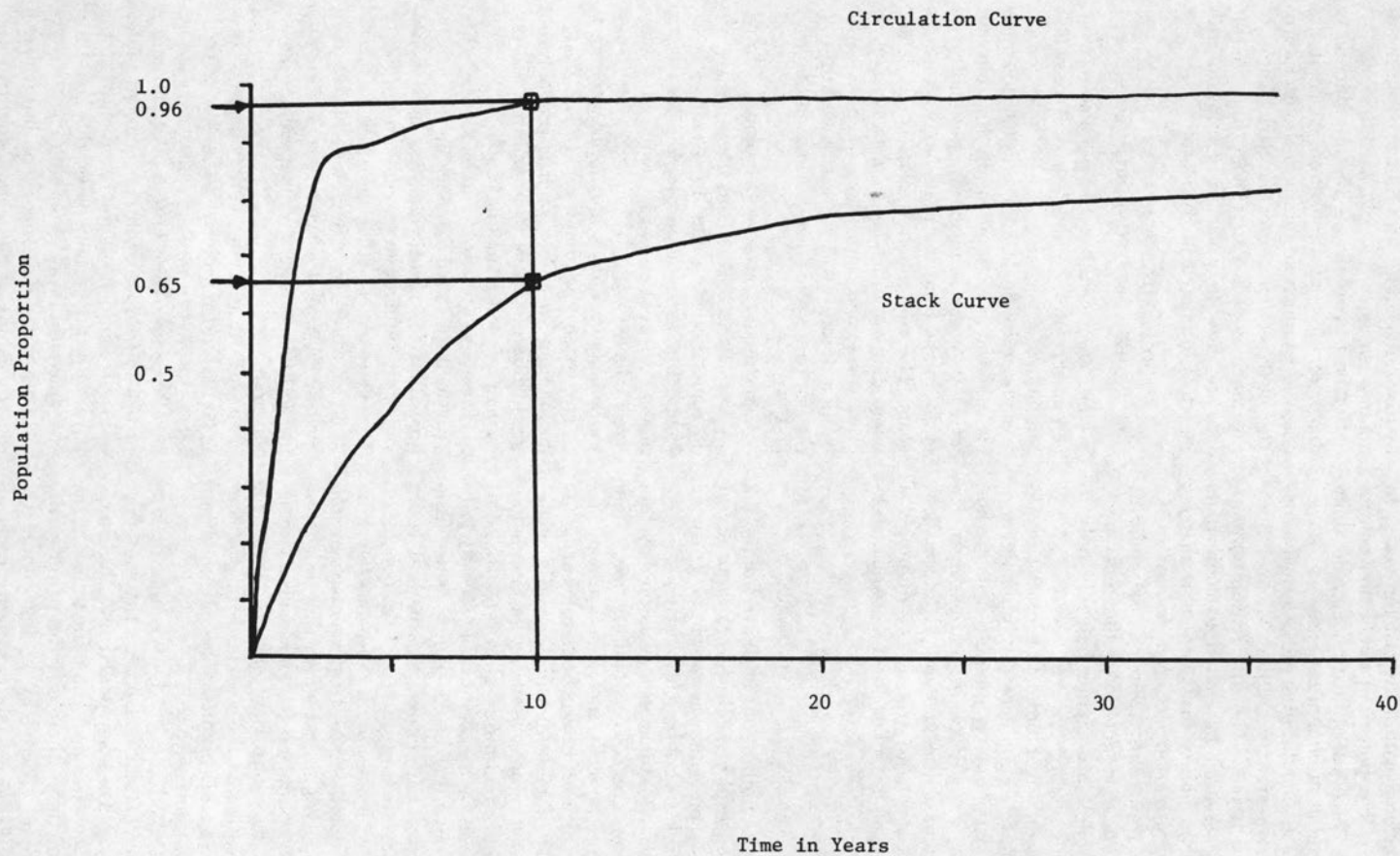


Fig. 1
Trueswell's Circulation Curves

have circulated within the last ten years. In our age of computerized circulation control systems, such identification can be done swiftly and at minimum expense.

This is a splendid example of valuable operations research technique. Michael Bommer once wrote, "The first reason why operations research has failed to achieve its potential in library management is that *far too much attention has been devoted to the construction and solution of complex mathematical models*. For the most part, these models are comprehensible only to operations researchers."¹⁶

Trueswell's technique is a most remarkable counterexample of this phenomenon. Like "a symphony on one note," his method is simple, straightforward, and exemplary in its economical use of standard information. The next step is to provide two examples of legitimate applications for Trueswell's technique.

THE APPLICATIONS FOR TRUESWELL'S TECHNIQUE

The full ramifications of the technique are still being explored. However, there are *at least* two application areas where it can be used to substantial benefit.

The first of these is circulation system conversion. The conversion from one system to another typically includes systematic insertion of the new checkout cards (or magnetic or electronically sensitive materials) in every book available for circulation. Trueswell's technique shows us that this process can be handled in a less costly fashion by converting books as they return from circulation. Ultimately, his method could reduce relabeling cost by as much as 50 percent with the number of books being relabeled stabilizing at 10 percent of current circulation volume (at which time relabeling could be conducted as books enter circulation). A very important side benefit of his technique is that the workloads for the conversion can be predicted for planning and budgeting purposes.

The second area is the weeding of low-circulation and low-use books. This particular application has been pulled into the "zero-growth" controversy. The basic tenets of the zero-growth method call for pruning the monograph "groves" by keying on the removal of low-use books (which are replaced

by new publications) in order to avoid building new, or expanding old, facilities.

It is best to abbreviate the introduction to this latter area of application, since it has received so much attention in the literature. The next section serves to clarify some of the more popular misconceptions in this area and how they can be contrasted with the ideas intimated by Trueswell.

SOME MISCONCEPTIONS AND SOME CORRESPONDING "FACTS"

Here are several of the popular misconceptions related to the use of Trueswell's techniques.

Some individuals contend that to argue for "no growth" is to advocate throwing out, for every year's acquisitions, the equivalent of the intake from the previous two to three years. The contention is that, if the annual publications volume keeps increasing at its present rate and acquisitions keep pace with it, then libraries will eventually end up with the last three years' acquisitions and nothing else.¹⁷

Unfortunately, use of the phrase "throwing out" suggests that the books be thrown on some desolate dump by a pair of horny hands. But to most people, the idea of removing a conscientiously acquired volume wreaks havoc with the innards. But Trueswell's technique does *not* imply weeding to create space you don't need. The cost of maintaining an empty shelf is probably not much different from maintaining a full one containing (noncirculating) books.

However, if you do need space, then Trueswell's method provides an inexpensive procedure for identifying little-used books, which are unlikely to circulate in the future. This does not say that the need to expand facilities would be eliminated, but there is no questioning the fact that Trueswell's method would ease the financial burden in this area.

In addition, Trueswell's method keys upon *use* and not on age. Therefore, if a library decided to minimize necessary expansion by employing Trueswell's method as part of the zero-growth management philosophy, it would be highly unlikely that this library would end up with the last three years' acquisitions and nothing else.

Another major concern of librarians is that decisions about retaining little-used

books should be the charge of an intelligent, humane, book-loving librarian, and not the charge of some statistical computerized method that is coldly insensitive to the value of a classic or rare book.¹⁸

One can offer little argument on this point. Statistical techniques are meant to be filtering systems, which, in this case, funnel a set of books to the attention of more qualified and sensitive personnel. That is, *they are not ends in themselves* as Trueswell has mentioned in much of his published work. The model allows us to reduce the cost of the initial filtering process (since it can be executed by untrained personnel) and allows us to guide trained personnel by calling their attention to books that they might overlook under other circumstances.

The opposite opinion, held by some library administrators, is that Trueswell's weeding technique would increase the performance rate of a library.¹⁹ We must be careful to realize that *Trueswell's published work deals with books that circulate*. That is, his method could be used to help stabilize the *circulation* performance rate (the proportion of the time a book a patron wants is available when it is wanted) as books are weeded.

This would make room for multiple copies that could increase the circulation availability rate (proportion of the stack collection on the shelf when a patron comes in looking for a circulation book). The circulation/performance rate could increase substantially as a result of purchasing the multiple copies.

This sounds promising, but there is trepidation, since Trueswell's proposals have been published for more than twelve years with little practical application of his work. However, Marianne Cooper used Trueswell's work to advantage at Columbia University when the departments of chemistry and chemical engineering separated and the serving library had to divide its collection.²⁰ Other studies have been done that cite Trueswell's work, but these studies cannot be strictly labeled as applications.²¹⁻²³

OTHER CRITICISMS AND SOME FINAL COMMENTS

One of the more mathematically-oriented criticisms of Trueswell's proposals centers on the idea that, apart from the items for

obvious retention (which are easily identifiable in other ways), weeding of noncore stock could be done at random. The idea of weeding at random springs from reports that curves "similar to" the ones constructed by Trueswell can be generated by models that assume random use of the books in the stacks.²⁴

But, how can you justify use of these models when they imply that a book, last circulated twelve years ago, is valued as highly as one that has seen thirty circulation uses in the last year? The problem with the logic mentioned above is that the similarity of resulting curves does not imply the equivalence of the methods.

Finally, there is a problem in interpretation. What one means by "non core" stock is highly dependent upon who is doing the talking. But all this is academic, because there are no published studies that show that use is uniformly distributed over *any* set of little-used titles. There *are* studies that indicate that *disturbance or use of any type* may be uniformly distributed over a set of little-used monographs. However, neither disturbance nor use is the same as a *circulation* use which is what Trueswell has studied.

Undoubtedly, this "preface" will generate a question or two beyond those already posed. However, it should be acknowledged that no quantitative technique for library management can "properly" evaluate all the variables in an important decision problem.

What *can* be asked for are methods in which (a) the model sophistication is not beyond the comprehensibility of its users; (b) the model is workable in terms of necessary data requirements and affordability; (c) the model does not ignore critical decision variables; and (d) the model is flexible in that it permits new information to alter the decision process at minimum expense. It is interesting, indeed, that Trueswell's method meets all of the above specifications when used for circulation-related decisions.

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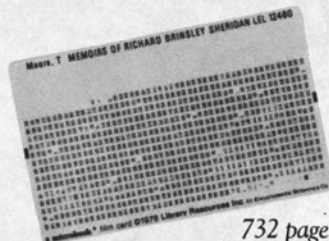
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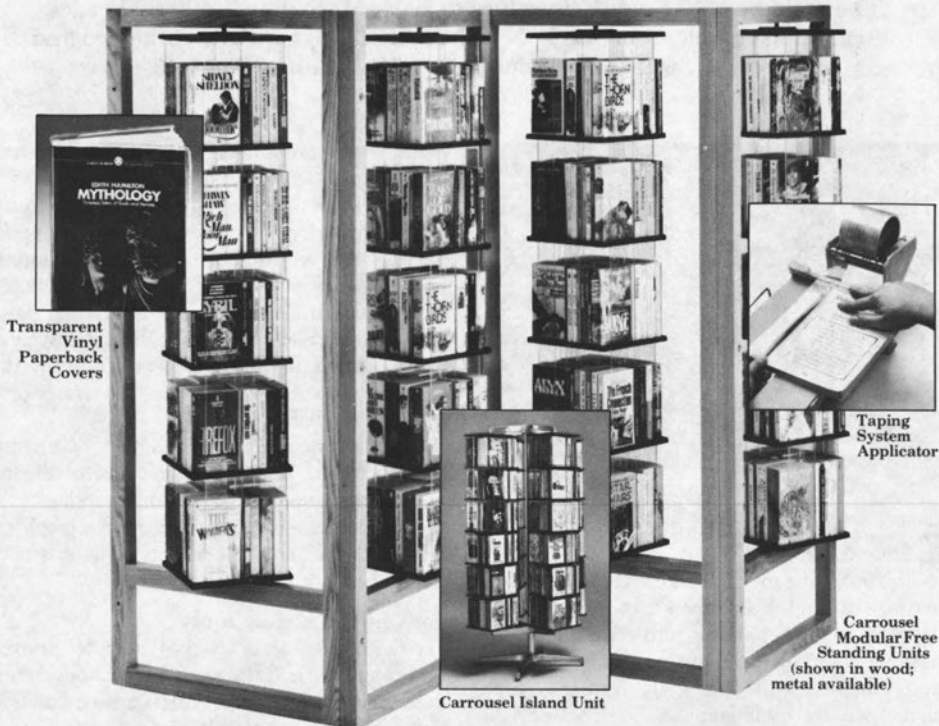
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