

# Serial Communications - the Future

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## Introduction

There are many possible ways of exploring the future of serials. For example, the rapid changes in production processes in recent years certainly make it legitimate to query what further changes in these processes can be expected over the next few years. From the viewpoint of serials acquisition, however, changes in production processes have so far only had an indirect effect on the work of librarians and information officers. Hence, it seems more useful to take a question of immediate concern to all members of the UK Serials Group and to explore possible relevant developments over the next few years. It is always easier to talk about the distant future but, again, to be useful, the period to the mid-1990s is probably as far as it is worth looking now. The obvious question to choose is - 'How costly will serials be in the future?'. My colleague, Dr Peter Mann, is going to discuss the figures in detail. Here, I want to consider some of the factors at work.

## Growth of Serials

The first factor worth considering is the rate at which material in serials form is expanding. Expansion can occur in two ways - a) the amount of material appearing in existing serials titles can increase; b) new serials titles can be created.

If material within existing serials is judged in terms of articles published, then the main period of expansion occurred during the period

1950-1970. As might be expected, the increase in number of articles per serial title per annum was most evident in the sciences. In the last two decades, this expansion has slowed down or, in some fields, even reversed (1). Since there seems to have been no systematic trend in recent years in the length of articles, it may be concluded that the annual output of material in established serial titles is now expanding rather little with time. All the indications are that this plateau will continue into the 1990s. One argument used by publishers for price increases in the past - namely the increasing weight of each serial title - therefore hardly applies now (although it may still be true, of course, for individual titles).

Estimating the rate of appearance of new serials titles has always been difficult. A very rough idea can be obtained from the entries in *Ulrich's International Periodicals Directory* (see Table 1).

Table 1

Rough estimates of total serials titles published

Date	Number
1951	10,000
1959	15,000
1970	40,000
1980	62,000
1987	71,000

The highest growth rate occurred in the 1960s, and was particularly evident for serials devoted to the sciences and related topics. The growth in most fields (including the sciences, apart from medicine) has slowed in the 1980s. In part, this reflects a saturation of the market both in subject terms - there is a limit to how specialised serials can be, and yet still be viable - and in terms of sales. However, serials publishers work in much the same way as the incoming tide: if they are held up at one place, they seek out others to penetrate. Medical-related titles, for example, are still increasing in number because the market (and especially drug companies) is believed to have the money and inclination to purchase



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anything reasonably relevant. A similar argument has been applied to justify new titles in business and commerce.

Well-established serials publishers are tending to expand from their existing range of serials into new areas (e.g. from biochemistry into biotechnology). Relative newcomers (or, sometimes, firms that have changed hands) tend to look for new niches. For example, one US firm that falls into this category has targeted newsletters in business and finance as a growth area, and is currently trying to start up one new title a week. Judging by present plans, although production of new serials titles has slowed down, it will continue at a significant level into the 1990s. Since it can take up to seven years to decide whether a new title will be viable, we must expect to be coping with these new titles until the mid-1990s.

During the past decade, a relatively small number of major publishers has been responsible for a high proportion of the new titles. The reason is clear enough. Establishing a new serial is a fairly costly business, and the time required for an acceptable return on the cash outlay is increasing. Everyone knows that publishers such as Elsevier, Pergamon and Springer Verlag dominate the serials market. The extent of their dominance is still worth emphasising - Elsevier, for example, now produces more than 600 titles a year (in 1987 this corresponded to 775,000 pages).

Will the big publishers continue to dominate the introduction of new serial titles in the 1990s? There are some signs that desk top publishing is allowing smaller publishing enterprises to enter the serials market. But where they usually fall down is in marketing and distribution. Consider, for example, a recent survey of Australian scholarly journals, most of which are fairly small-scale (2). It was found that none of the government-published titles covered its costs by subscriptions. Of the non-governmental titles, only a quarter of those in the natural sciences and a half in the social sciences managed to do so. Most of the editors and many of the publishers acknowledged that they were very poor at marketing and distribution. Hence, although from the technical viewpoint small-scale publishing has become increasingly easy, from the librarians' viewpoint this is unlikely to have much of an effect on their acquisitions policy.

One area where new technology does have a slight impact on libraries is in the changing visual appearance of serials. The covers of scholarly journals are now closer in style to those of

magazines than to the old-fashioned image conveyed, for example, by the Proceedings of the Royal Society. Interiors, too, have been revamped. For example, an increasing number of articles are now printed with their abstracts in bold - a practice that has been recommended for years by typographical experts. These changes are partly due to a new design ethos, and partly stem from a competitive desire to produce distinctive products. Whether the latter works is an open question. Some time back, we interviewed chemists as they scanned recent issues of serials. We asked them why they picked up the particular titles that they did. One chemist in the group claimed he had been attracted by the pretty cover of a new serial. I would hate to generalise from this single example.

### Pricing

All this leads to the key question - 'What will happen to serial prices?'. According to the Association of Research Libraries, members' expenditure on serials has increased by 11-12% annually over the past ten years. The increases show little sign of slowing: in fact, expenditure on serials in 1986-87 was over 18% higher than in the previous year.

The question is what is causing these continuous increases? US librarians (though not only US librarians) have been greatly affected in recent years by the exchange rate. The main problem has been the falling value of the dollar, but long-term planning has also been affected by fluctuations in the exchange rate from year to year. Leaving this aside, the underlying increase in production costs seems to be of the order 6-10% per annum. It has exceeded growth in the retail price index for a variety of reasons, of which the most important is probably manpower costs. Publishing is a labour-intensive industry, and expenditure on skilled staff has grown more rapidly than inflation. Such expenditure covers not only in-house staff involved in editing, marketing, etc., but also staff at printers and external editing and design staff. Even editors in the academic world have come to demand more resources (especially secretarial) as their own institutions have been increasingly squeezed for money. Publishers have also pointed out that new developments in publishing (especially in electronic publishing) have made it necessary for them to carry out much more R&D work than in earlier decades. The cost of this also has to be borne by the serials.

Critics in libraries and information centres acknowledge that these factors are at work, but say that prices have risen more than can be

accounted for in this way. It has been remarked in the USA, for example, that the prices of some overseas serials have increased at nearly three times the rate of comparable US titles. One factor in this has been claimed to be the general expectation of publishers that North American libraries can afford to pay more than others. Of more general importance is the number of learned societies which have reached agreement with commercial publishers for the latter to handle their publications. The transfer seems, in at least some instances, to have led to additional increases in price.

The Association of Research Libraries is currently gathering information on a set of serial titles to see what relationship exists between subscription prices, on the one hand, and such factors as production costs, number of pages and currency fluctuations, on the other. (This connection is also being examined by the American Association for the Advancement of Science.) Their results should provide a firmer basis for discussion. Meanwhile, it seems that publishers have a case for claiming that serials costs have risen more than the retail price index; but some serials prices rises have certainly exceeded this rise in costs.

### **The Reactions of Librarians**

The natural reaction of librarians - to cancel serial titles - has complicated the equation. Publishers point out that a reduction in the number of subscriptions increases the unit cost and, hence, the price that must be charged. In fact, this argument only partly holds. Many library cancellations have had little to do with price. For example, many libraries have preferentially cancelled foreign-language serials (3). But it is true that the price of a serials title and the jump in subscription price from year to year is increasingly being taken into account by librarians in cancelling titles.

Suggestions by American librarians for alleviating the problem of journal subscriptions fall under three main headings. a) There should be local, or regional, co-operation between libraries in the acquisition and provision of serials. b) Librarians should try to bring pressure to bear on publishers to keep price increases as low as possible. c) Costly serials, whose price is increasing rapidly, should be looked at particularly closely for cancellation. We can ask, looking to the future - how successful are these measures likely to be in controlling serials budgets?

The potential for co-operation between libraries has been the subject of a number of investigations

in recent years. One specific suggestion by American librarians is that neighbouring libraries should develop complementary collections of serials. A recent study suggests that this approach would only be of limited value for research libraries in the UK (4). (It may have some value for libraries operating in the same city.) Another suggestion - that libraries should subscribe to services providing single articles on request - is also likely to be of limited value in the UK (5). Although single-article acquisition may be useful in some instances, its application across the board in a research library is likely to prove uneconomic. In other words, acquisition of single articles will often prove more costly than purchase of the original serial, if such acquisition becomes the dominant method of retrieval.

Pressure by librarians on publishers to keep down price increases might prove more useful. Libraries and information units are the main purchasers of the costlier serials. If they could agree on massive cancellation of titles from a particular publisher, it would certainly make a significant impact (as similar tactics did between the wars). However, this activity will only be possible with the support of readers, which implies that it has to be looked at in the light of current cancellation policy.

Most cancellation exercises have been joint activities between librarians and readers, with the former often setting the financial target and the latter making the final decisions on titles for cancellation. In research libraries particularly, the exercise is complicated by the fact that some readers are also authors, or even editors. They therefore have an additional reason for desiring the continuing purchase of serials. However, this involvement also means that they form a potentially powerful lobby with publishers. The main factor in deciding which titles to cancel and which to retain is obviously the importance of the material published. A publisher who can attract the leading authors in each field is clearly in a strong position when it comes to maintaining sales. Conversely, if authors agreed to boycott particular serials or publishers, this would have at least as serious an effect as any such agreement between librarians. Some indication of author power can be discerned in the question of photocopying. Sales of offprints - a useful, although generally minor, source of income for publishers - have been diminishing for some years, and publishers usually see increased photocopying as a contributory factor. This is one reason why they have been pressing for greater control of photocopying. However, few authors

are averse to having their articles photocopied, and they react strongly to any limitations placed on their own photocopying. Consequently, publishers have to walk gently in this area.

Learned and professional societies might be thought to wield even greater power, since they unite most of the authors and editors in a particular discipline. However, whether they are in a position to intervene over the specific question of serials price increases is not clear. Many societies have production and distribution agreements with commercial publishers. In any case, all of them are accustomed nowadays to using serials publications as a method of obtaining funds to support other activities and initiatives. In the present economic climate, it will be difficult for them to change their viewpoint.

The overall assessment of the American librarians' proposals must therefore be rather pessimistic so far as their application to the UK is concerned. The various suggestions for changes in library access to serials will either only make savings in special circumstances, or will considerably inconvenience readers. Where such changes lead to a reduction in circulation, publishers will, in any case, react by increasing subscription prices, so reducing any saving. Perhaps the idea of monitoring prices and bringing pressure to bear in specific cases deserves most consideration and, indeed, is being pursued. It might prove more effective if a joint lobby could be mounted with authors.

### Changes in Readers' Access

Researchers are becoming increasingly aware of their need to access information. This can be illustrated by a comparison of the information-seeking habits of British researchers in the mid-1960s and mid-1980s (6). Tables 2 and 3 show not only that information is now more widely sought, but that the volume of literature searched has also grown.

Activity	Percentage involved	
	Mid-1960s	Mid-1980s
Follow up references cited in relevant articles	80	96
Reading current publications	77	95
Use of abstracts journals	58	68
Use of personal index	47	54
Use of library catalogue	10	31
Search by librarian/information officer	8	24

**Table 3**  
Number of documents required before start of research project

Number	Percentage involved	
	Mid-1960s	Mid-1980s
Half-a-dozen	40	28
A dozen	39	38
Twenty	10	22
More than twenty	11	13

Over the same period, researchers have become increasingly accustomed to the automated handling of information. It is therefore natural to ask whether such handling can in any way affect the problem of serials growth. The probable answer is a curate's egg - some parts will be affected; the rest will not. Unfortunately, the part that is least likely to be affected in the immediate future is the primary journal: unfortunate, because these journals lie at the core of most disputes over price increases. The fully-fledged electronic journal, which could affect this market, is only likely to make an impact in a few restricted fields over the next five years. Such journals still face a number of problems relating to access, author participation, etc.

At a simpler level, electronic retrieval of full text is already here. The American Chemical Society has for some time run a Chemical Journals Online service, which includes the full text of all articles published in ACS journals back to 1981. The database now includes all the Royal Chemical Society primary journals back to 1987 and will shortly add RCS review journals. Some commercially-published chemical journals are also being included and negotiations are going ahead for others.

This represents a modest success (especially since neither tables, nor graphics are included - only the captions). However, the electronic text is available because it is involved in the production of the printed version. Hence, it is being marketed as a spin-off, rather than as a product in its own right. The question for full-text electronic articles more generally is one of storage and retrieval. The Knowledge Warehouse project examined some of the difficulties (7). The intention in this project was to obtain the electronic version of published material from the publishers, then to store, index and make it available from a central location. The results of the initial feasibility study underline the complexity of trying to handle material from a

variety of sources systematically. They also highlight some of the legal uncertainties regarding use of material deposited in electronic form.

### New Media

One form of serial where many of the problems of electronic handling have been tackled is, of course, the secondary publication (such as an abstracts journal). The question of price has loomed large here. For some years, most secondary publications in electronic form were priced to encourage use, with the profit coming from the printed version. As electronic retrieval has become increasingly important, it has been necessary to reverse this policy, and to price the electronic version more realistically. Unfortunately, from the viewpoint of a librarian, this means that both versions of the serial are produced on a smaller scale, with a corresponding increase in unit cost. The moral is that a gradual transition to electronic publishing can lead to an interim period when both electronic and printed versions suffer major price rises.

For secondary publications, there is now the further question of whether they should be provided online or via CD-ROM. Again, this split may lead to price increases of both versions. Although reference serials of various types are now going onto CD-ROM, all the indications are that current primary journals will not be transferred to any significant extent over the next five years. It is in the area of document delivery that new forms of electronic storage are likely to make the most immediate impact. The ADONIS experiment, for example, is currently producing new information on the provision of single articles (8). But it is not obvious that these experiments will have any immediate impact on library costs. For example, most of these experiments involve co-operation with the publishers, who will naturally do nothing that seriously endangers the sales position of their journals. The task of acquiring serials may well be assisted, but the basic problem of cost of acquisition will not be solved.

The overall impression is that electronic handling will produce some effect at the margins. One example of this relates to newsletters. During the 1980s, these have been a popular area for expansion amongst publishers. Electronic bulletin boards are now becoming a widely acceptable medium for the interchange of news and views between people in the same field. The information they convey can overlap appreciably

with that contained in newsletters. Consequently, publishers must increasingly take bulletin boards into account when considering additional newsletters. (This does not necessarily imply competition: some newsletters are being run in conjunction with bulletin boards.)

Electronic bulletin boards raise some interesting queries for librarians. A good point is that they cost the library nothing at present. A more questionable point is that they by-pass the libraries altogether. Experimentation with bulletin boards may give librarians some insight into the problems of electronic publishing, but will have no major effect on their serials budget.

### Conclusion

The overall assessment of changes to the mid-1990s must be pessimistic as regards their budgetary impact. Some developments in automated information-handling and document delivery will certainly influence library activities, but it is not obvious that they will lead to financial savings. The factors that have led to price increases for serials in the immediate past are still in operation, and will lead to further price increases in the future. Maybe the best that can be hoped for the immediate future is for some control to be exerted over unjustifiable price increases. Otherwise, the grumbles to be heard in five years time will be very similar to those we have heard for the past five years.

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