

Crises of growth in universities and their libraries: impacts on budgeting and building

I Introduction

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1 *Trends of growth in the 'sixties*

In all European countries the period from 1965 until 1975 can be called a golden decade for libraries. Never before were so many libraries provided with so many subsidies and personnel as well as new library buildings.

During this period the libraries were beneficiaries of a general development which was characterised by increasing population numbers, economic expansion, and the extraordinary extension of both scientific research and academic education. For some years this resulted in a positive cycle: more scientists produced more books which were required by more students. Because of an over-proportional expansion of their means the libraries were able to purchase more books. More and more, clever management enabled libraries to provide enough copies of these books and to make them available by free access to all interested users. Consequently there was an extraordinary increase of library users which, of course, presented new arguments for the provision of additional funds, personnel and buildings. Such a cycle which becomes intensified by itself can be observed in nearly all countries.

2 *The crisis of big science and the library*

Long before the growth of libraries had reached its peak Derek J Sola Price had pointed out in his book *Little science — big science*¹ that there were phases of growth and maturity also for the development of science, i.e. that there is a natural limit for the growth of science. One reason for this is that the expenditure for science rises over-proportionally in relation to the gross national product. The reasons for this differ; they have not been sufficiently analysed yet. At any rate the Russian scientist Dobriv arrived at the law of decreasing scientific efficiency: 'Each duplication of new findings in world science made during the last years of this century has required an 8-10-fold rise of scientific information, a 15-20-fold multiplication of the number of scientists and a 30-40-fold increase in the budget'².

The side effects of growth can be seen also in the phase of growth of libraries. They lead to a demand for funds which has increased in an overproportional degree. Miriam Drake comments in her paper 'The economics of library networks'³:

The costs of library operations have accelerated rapidly in recent years resulting in higher costs per unit of output and lower labor productivity. The prices of library inputs, that is, books, journals, and labor, have increased more rapidly than prices generally. An estimate of a library price index for academic libraries indicates that prices paid by libraries for inputs are consistently higher than prices paid by institutions of higher education or firms generally as reflected in the wholesale price index.

In the long term, however, one aspect will turn out to be difficult: the combination of the increasing production of books and the increasing book prices which, in addition to the over-proportional demand for funds in the book budget, will certainly undermine purchase facilities.

3 *The book market crisis and the library*

This negative development is influenced by the development of the book market. There was also a phase of growth which mirrored the development which libraries have undergone: more scientists meant more production; more students and the increasing funds of old libraries and institutes meant more consumers. Thus an increasing book production was facilitated while prices could be kept relatively stable. But more scientists meant also the specialisation of scientific research and thus more specialised literature. The increasing number of special titles lead to a diminution of the group of interested people and thus of the consumers. Now the low editions brought about a considerable increase of costs for the publisher.

As long as library budgets were adapted to the growth and specialisation of science scientific book production flourished.

Since library budgets have stagnated the cycle has become negative: the number of libraries able to purchase specialised literature has been decreasing since. Thus book prices increase, and at the same time the number of libraries able to afford the books decreases, and so on. The result of this development means for libraries that they have to order specialised literature from central or special decentralised libraries and thus become too slow for the scientists. On the other hand, however, they cannot even provide enough copies of the books required by the continuously increasing number of students. At the moment access to literature is deteriorating both for scientists and for students. Now the cycle becomes more and more negative: as libraries become too expensive for the government, users consider them too slow and too unreliable. This fact weakens the importance of libraries and leaves them no chance to obtain the subsidies needed.

4 *The influence of electronic media*

It is most probable that the advance in electronic media will further enforce this development in the future. The field of special, especially technical, medical and scientific information already makes this development obvious. Today many pharmaceutical firms, physicians and scientists already inform themselves via the information services which are offered in particular by the services available from the United States. At present bibliographic information services are sometimes coupled with referral systems for libraries which can offer the physical documents. There are also trends to store complete texts for computer access and to supply print-outs to interested people on demand. This trend will be even more successful in the future because of the development of printing technology; texts to be printed are put into a machine-readable form and prepared for the press with the help of EDP devices. Hence it is obvious that there is a good number of librarians, particularly in the USA, who forecast a great future for electronic publications. The shortest way would be if the author typed his text into the terminal in a machine-readable form; if he, at the same time, also considers the aspects of subject analysis to be stored in the information data bases, the person interested can be informed about a document via these data bases and can obtain a full-text version if he wishes.

Today this 'publishing on demand' system seems Utopian to us. The present problems with the storage of comprehensive texts as well as the problems of the compatibility of the hardware and software of computers do not promise a prompt breakthrough of such a seemingly simple system. The trend towards

this development, however, is emphasised by the marketing problems of publishers.

Buying books becomes worse because of the reduced numbers of copies and therefore increased prices. They cause difficulties for the librarians who try to solve these partly by national co-operation in the purchase of books or through central specialised libraries. Here the copying of texts plays a large part. Even the normal reader often no longer buys the whole book, but contents himself with the few pages which he urgently needs. The trend of copying books in parts has been supported by the publishers themselves, as they quite often produce omnibus volumes in which a few important contributions carry the rest.

Therefore we shall have to take into account that the importance of libraries, especially for research, is going to decrease if automated access to scientific literature or data can be achieved via a terminal or even via an individual television set at home.

I should like to repeat that these are future prospects and that I do not at all believe in such an automated information system being able to operate world-wide on a realistic basis within the next five to ten years. But these trends will be strongly propagated by the electronics industry and emphasise the trend towards investing in old-fashioned libraries.

5 *The education crisis*

But there is also a number of other trends which run counter to the growth of libraries: in many western countries the birth rate has considerably decreased. Although the USA expect an increase in births after 1980, the number of pupils and students will be smaller during the following years. For this reason a prognosis of the National Center for Educational Statistics expects smaller funds to be spent on higher education during the coming years. As you know, libraries are used most frequently by younger people between the ages of 20 and 34 years. As their percentage share in the population becomes smaller and smaller there is a fear that libraries will not be used as intensively as formerly. This will make the position of libraries even more difficult.

The wind is blowing into the library's face. And that at a time when taxes decrease because of economic stagnation. The citizens whose consumption is considerably limited, particularly by increasing energy costs, are also less willing to give away a higher percentage of their income for taxes.

6 *What to do for libraries in the 'eighties*

The trend to turn public tasks into private ones, or to reduce them, can be seen clearly everywhere.

It is very difficult to find the right strategies for the future work of libraries. I myself cannot recommend an ideal remedy. However, I should like to put forward three suggestions from my point of view:

- 1 Decreasing the cost of the librarian's work
- 2 Developing the efficiency of the individual library
- 3 Integrating the library into the development of modern media and electronic publication methods.

1 As the experience of past years, especially in the Anglo-Saxon countries, has shown, the librarian's work can be speeded up considerably and also made cheaper by establishing networks. Therefore the establishment of such networks, if possible on a European basis, should be promoted and improved. I am very glad that we shall have the opportunity to learn more about the development of library networks this afternoon. I tend to support the American model in which these networks are not governmental authorities but free enterprises which are financed mainly by the charges paid by libraries for the services obtained.

The networks also offer an opportunity to solve the problem of speeding up the inter-library processes in a satisfactory way. Above all, this is a problem of the decentralised system of the Federal Republic of Germany. The networks will help to increase the efficiency of all libraries involved. These will be able to report promptly to the user the location of a book they do not possess themselves and ensure the prompt delivery of the book. With that, the procedures required for the ordering of books from other libraries will be largely rationalised too. This is also a possibility for lowering the costs of library functions.

2.1 The library policy of the 'eighties should no longer consider the creation of central and national institutions as its focal point, but should stress its activities towards supporting the individual libraries much more than it did before. Only if the local library remains efficient, if it can offer the user all important literature available on the premises, if it gives content analyses of the items, and if its personnel can offer advice to its users, will it be able to provide such a speedy document delivery system that the users will not prefer to use other searching aids. Now it is essential for us to maintain human libraries also in the future — libraries which offer pleasant and stimulating reading facilities. The fact that information is

increasingly disseminated with the help of machines will make future users appreciate personal contact with a helpful librarian.

The expansion of local libraries has a side effect which has to be considered more seriously than ever before: a good local document supply system will yield sufficient sales figures for publishers. Together with the publishers, librarians should try more than before to clarify the political economics of library budgets. Academic literature cannot be published, and the necessary communication between scientists cannot be guaranteed, without an acceptable market situation. There will be no progress of science without the continuous publication of scientific results.

If on the one hand library budgets are cut, and on the other hand academic publications are still wanted, they will have to be supported by national subsidies. This way of supporting relevant academic literature which would guarantee acceptable sales seems to me a solution which would be the first to conform with the requirements of an open and democratic society.

2.2 Perhaps the competition between electronic media and the book will have the welcome effect that literature which is required for a longer period or for broader user groups will be published in print, while the large quantity of specialised titles or material which is of interest only for shorter periods but which is still flooding libraries will no longer be expected to the same extent. This would create such dimensions in the growth of libraries that the space needed could still be financed. If there are no opportunities for building new libraries or adequate extensions, it will certainly be reasonable to put off the transfer of literature to national storage libraries. Interim solutions can be found in many cases by reducing open-access stacks and building in-house compact storage facilities.

Yet if it becomes necessary to adopt the ultimate solution of outsourcing holdings to a central library, it should be a pre-condition to put these titles into machine-readable form so that they remain available to their parent libraries via an automated on-line network.

3 Libraries will have to observe carefully the application of new media, in particular electronic media, and to integrate them into their systems as soon as possible. In their holdings from the past libraries possess rich treasures of

information which will be of importance in the future. Most probably the book will still play a part then, but it will be used alongside and together with other media. Therefore one can say that the future of libraries lies in a media-mix system, i e in a combined supply of conventional and automated information. For some time libraries will always benefit more from the application of machines than will private users.

However, they will have to take care that they are always able to provide modern information services for automated word-processing machines, as American libraries have suggested. With the help of these machines users are able to record their own texts in machine-readable form. It will be much easier then to proof-read them and to make print-outs than by using conventional methods.

I could well imagine that German doctoral candidates who are writing their theses would be very happy if there were such machines in libraries. They could store their theses electronically, have a print-out made for handing in for examination purposes, and, if the professors opinions suggest alterations, they could store the new input easily and simply.

A library able to provide such facilities could offer a thesis via electronic channels. In this case it could also offer a 'publishing on demand' service.

As you can see there are new prospects to consider in the future-oriented development of libraries. But we do not at all have to be discouraged by the difficulties still to be met. Even if there may be limits to the growth of libraries, these limits do not necessarily have to be the limits of their development.

REFERENCES

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- 2 L E Bede: Soviet discussion of the exponential growth of scientific publications. In: *Proceedings of the American Society for Information Science* Vol 7 1970 pp 5—17 (especially p 11)
- 3 Mirian A Drahe: The economics of library networks. In: *Networks for networkers*, New York 1980 pp 211—240 (quotation from p 222)