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Human and Organisational Aspects of Library Automation

Hans Geleijnse

INTRODUCTION

In the literature on library automation it is found that only about 10 per cent of it involves human aspects. This is surprising, if one considers that about 80 per cent of the problems which arise in automation projects are due to problems in the human and organisational aspects of library automation. Obviously, there is a tendency to disregard these questions, perhaps in the belief that these problems are all easily solved.

Today, library literature with respect to this subject is less concerned with the questions that arose when automation was first introduced into libraries, such as the consequences for employment, the numbers of records that could be handled and the ergonomic aspects. At present, there is a tendency to focus more on the impact of electronically stored information and its consequences for organisation, management, and strategy.

In this article, this subject will be dealt with, based on my own experiences at an automated library. One of my tasks was and is the management of automation projects, a job in which many good things happened but some others went wrong.

HUMAN AND ORGANISATIONAL ASPECTS

Automation is not only a question of technology and finance, hardware and software and the money to buy it all with. The idea behind automation is to serve people, to work more efficiently and to provide better library services. It has an impact on the library as an organisation. In this respect, we can distinguish five internal organisational aspects of importance:

- staff;
- required skills;
- management style;
- organisation;
- strategy.

Of course, these five aspects are interconnected; they all influence one another.

The most important external factor for the library are the users. They are the clients, the library's reason for existence. Where the library claims to be a client-oriented organisation, it has to take into account the demands and

experiences of its users. In the end, it is the users who decide whether the library is doing a good job or not.

Users

For quite a long time, library automation concentrated on improving efficiency in the backrooms, you might say for too long a time. The first device which was accessible to and profitable for users was the OPAC, the Online Public Access Catalogue.

In her article 'Library management and emerging technology', published in *Library Trends*, Susan Martin emphasised that it is not wise for the library to pull too far ahead of its parent institution's culture and tendencies. Libraries could install many interesting technologies, databases and technical devices, but if the users are not ready to accept them, the library will not succeed with those innovations.

On the other hand, a library must strive to be up to the level of developments in the parent institution. Otherwise the library will become an anachronism, a museum, and be discarded as a source of information.

In numerous international studies it has been confirmed that the OPAC is a great success. Library users are generally enthusiastic about this service, especially when the library is able to link the OPAC to the campus network and provide the same information available in the library on the desktop of the professor, the researcher and the student. The consequences of this development are tremendous, increasing the power of the user and diminishing the monopoly of the library on the access to information.

It is doubtful, however, that the decision in the Netherlands to replace the catalogue with an unknown automated system would have been taken in the early eighties, had it been up to a sample group of users.

The decision to do so was taken by librarians who thought it might be profitable to users and who could refer to earlier experiences in the United States. For users, it was often impossible to foresee the benefit of new technologies and to judge their value without having experienced them.

In the last decade, this situation has changed because of the rapidly growing international contacts of our users with colleagues worldwide and the development of new media.

The growth of information technology and the information explosion has led to library users becoming more aware and demanding a higher level of service from the library. They want specific information, a tailored service, and they want it now. In the near future, users will rebel if they have to wait a couple of days to get a copy of an article from another library. On the other hand: 'fast information' will be thrown away if it is not good information.

More and more librarians will have to focus on providing the tools for the acquisition of proper information to users. With that goal in mind, they have to work on dedicated services, but they also have to develop better user instruction. They should also organise proper feedback, procedures in order to ensure that complaints, demands and suggestions for improving library services are heard. Usually, libraries are not very well equipped for gathering this information about user behaviour and user demands. Occasionally, an organisation specialised in the investigation of such topics is consulted. Most of the time, our knowledge comes from discussions with faculties, representatives of library committees and from our staff members who are in daily contact with the users.

We have learned, however, that the introduction of a new automated system or a new service is jeopardised by a lack of proper training and instruction. Users need to learn:

- what the system can do for them;
- how to use the system;
- how to integrate the new library service into their existing work;
- what they should do if things go wrong: whom they should call or talk to.

Training can be carried out through:

- lectures (the integration of library instruction in the educational programme of the university is most profitable);
- classroom sessions (with hands-on experience);
- audio-visual presentations;
- demonstrations/visits (for this purpose, a demonstration model called 'Quasi modo' was developed by Tilburg University and Digital in 1990 in order to show users the developments made possible by new technologies);
- computer-aided instruction.

It should be emphasised that part of the Telephassa project is the development of fifteen interactive instruction modules: five in Tilburg, five in Patras and five in Barcelona. This project should lead to a new way of instructing library users, though it should be kept in mind that the help of productive library personnel providing good information is the most important thing.

Staff

Librarians tend to concentrate on the organisational aspects of the automation process rather than on the way in which the process will affect line personnel. John Olsgaard (1989) stressed that at least one study has estimated that over 85 per cent of all failures in systems implementation can be attributed to 'people problems'.

It is, therefore, very important to consider what impact new developments have on library personnel, in particular the average employee who is engaged in the

daily process of cataloguing, circulation and the provision of information.

Automation has an impact on job security, job satisfaction, the quality of the job and on cooperation between members of different divisions or branches.

Automation can have positive effects on staff by:

- reducing repetitive work (an example is the automation of the circulation system);
- upgrading the skills of the employees;
- increasing the variety of tasks.

Automation can also have negative effects

- because automation can be used to 'deskill' jobs (a decrease in the amount of original cataloguing);
- automation can eliminate jobs (without automation more staff would be required in acquisition, cataloguing, lending, etc. But it is fair to say that the growth in the demand of library services could not have been tackled without automation. An example is the circulation system);
- automation can create stress when there is uncertainty about what is going on, for instance, when there are no written personnel plans and procedures when automation is initiated.

The fear of losing one's job is a major concern for many employees, especially older ones, who may question their own ability to upgrade or adjust their skill levels.

It is my experience that an employee who is willing to upgrade his or her qualifications and is willing to do things in a new and different fashion not only tends to keep his or her job in the library but often winds up in a better position in the organisation.

Every library is, however, faced with personnel who simply cannot be happy in a new and automated situation. Even people who are willing to participate in automation will often have problems if they just cannot stand working in an environment of constant change and, most of all, uncertainty.

The way in which a library deals with this problem is one of the key factors in managing organisational change.

Uncertainty about what is going to happen, even if people are not scared of losing their jobs, is very common in libraries that strive for change. To deal with this problem at every organisational level, staff needs to know what is happening and should be involved in one way or another in the decision-making process. One of the main management instruments for involving staff is to create working groups, not only to look after specifications, evaluation committees and training, but also to give library personnel the opportunity to express their views on every level in the library organisation and to listen to ideas, suggestions and proposals. It is also of great importance to have an overall

personnel plan, a human resources plan, indicating the changes in jobs, in relationships and in organisation.

Turner emphasised how important it is to make staff confident and aware, and to keep them informed. The following methods are, therefore, recommended:

- involve staff from the beginning, telling them why, what and how automation should take place;
- install a planning committee or working party including employees from all levels;
- organise demonstrations and visits to other locations;
- promote the system;
- make sure frequent communications take place throughout the process: written communication, lectures, meetings, etc.

What is described above is a recommended policy. Often, a large majority will be enthusiastic to follow this road. We will have to cherish the hard-working sceptics and find solutions for those who simply cannot work in a changing environment.

A rather different problem is the basic hardware ergonomic considerations, both for staff and users, such as seating, noise, tables, computers and lighting. I will not go into detail about these topics, as they are dealt with extensively in the library literature, but I would like to remark that it is evident that ergonomically designed systems allow employees to be more productive. US government studies have shown a 25 per cent difference in productivity between the best designed and the worst designed workstations.

At Tilburg University Library, there were some severe problems initially. The problems concerned noise, tables and lighting. Some equipment caused too much noise, and the stairs connecting the three floors were extremely noisy. Staff complained about concentration problems and increasing irritation; they were sometimes unable to do their work properly. The worst thing was that these deficiencies led to a decline in job satisfaction among some of the employees. Actions had to be taken by the architect and supplying companies to solve these problems.

Another problem was presented the study tables, which were designed for the average user. Complaints by a growing number of tall students had to be dealt with; the height of a number of tables was changed.

Despite numerous predetermined requirements, the lighting in the building was insufficient to enable adequate browsing through the stacks. Additional lighting, therefore, had to be installed.

A different ergonomic question was how many hours of terminal work should be regarded as productive, efficient or psychologically and physically acceptable. A number of libraries have policies that limit workers to two hours at a stretch

on the terminal, and no more than four or five hours per day. In the early eighties, agreements on this matter were made with the trade unions in several regions of Germany. In the Netherlands, new regulations have been introduced recently, reducing the hours of permanent terminal work.

An answer to possible limitations could be flexplace arrangements, where the employee has a job consisting of 50 per cent in technical service and 50 per cent service to the public. But even in the technical service departments, agreements can be made with respect to the variety of work.

Skills

In the last ten years, libraries have undergone tremendous changes. The old task of guarding the collections has become less dominant. The focus on access to information is becoming increasingly important. Libraries regard it as their duty to see that the right information gets into the hands of the right users. In this respect, technology has not only changed the form, but also the substance of library work.

Librarians of the information age need to develop attitudes, abilities and skills which are markedly different from those required before. In order to face new developments, new skills are required of library staff:

- the ability to communicate: a vital skill, since librarians have to function as intermediaries whose mission it is to instruct users on the most effective methods of utilising the electronic access to information. The ability to communicate in English is also becoming more important, as research and study programmes are internationalised.
- subject specialist: librarians should be trained or retrained to specialise in methods of accessing or using information, thereby becoming vital links between the user and the information. For a proper performance of this task the information specialist should also be a subject specialist in order to assist the user in solving his information problems.

It is obvious that the electronic storage of information is no longer a real problem; retrieval of the information available in the Netherlands, Greece or Spain is technically no real problem either. The real problem for the user is to get the right information he needs out of the enormous amount of information available. Solving this problem will be the main role of the librarian in the future. The automation of library services - services, not techniques and procedures - should lead to a more client-oriented library;

- information technology: the application of technologies connected with electronically stored information requires high educational standards among staff;
- public relations and marketing: librarians must become more market oriented and must 'sell' their library services to the academic community and to society.

A library should see to it that a proper mixture of these skills is present in the library. Overall, higher educational standards and more systematic training programmes are required for the library of the future. Libraries will have to take into account that an increasing amount of their budget will be needed for training and education.

The trend in library theory and in practice is towards more intensive, structured, formalised and centralised staff training. Training and education should be permanent in order to keep staff informed, committed and aware of new developments. Of course, training is a must if you introduce a new automated system into an organisation.

Management style

The automation of libraries requires the application of new management methods and of a new management style.

Traditionally, libraries are bureaucratic and hierarchical organizations with a traditional top-down, authoritarian management style. There is often a huge gap between professional and non-professional staff. These patterns are rapidly changing or have already changed towards a more democratic style of management.

Automation requires new patterns in the library and this, in turn, demands a more participative management style. In libraries that have chosen for that style combinations of the following can be seen:

- job enrichment;
- job rotation;
- flexplace arrangements;
- job sharing;
- problem-solving teams;
- project-based organisation;
- multiple-reporting structure.

In successful companies involved in innovation, there is hardly any management hierarchy. Most of these organisations have flat organisational structures with many people influencing important decisions.

I think there are also objective reasons for encouraging this development. The universal access to information through the use of computers (for instance, through such devices as E-mail and Conferences) will flatten traditional steep organisations.

Library management must realise that it is absolutely impossible to occupy a front-rank position in the fast, complex and intense developments in the field of information access and information use without the optimal involvement of the library personnel. Of course, real involvement will also entail increased responsibility.

In the Tilburg project, this was experienced quite clearly. At the start of the programme it was possible to hire program managers and technical specialists from outside. A deliberate choice was made not to do so, but to trust our staff members, to rely on our own personnel and to establish close relations with the Computer Centre.

Regular staff members were given a great deal of responsibility with respect to new projects. We were convinced that the projects would only succeed in the long run by organising experience, skill, expertise and the 'eye for the user' needs by relying on the current staff of the library.

It would not be fair to mention only the advantages of participatory management. There are also negative aspects:

- It is more expensive, because you higher wages will have to be paid.
- It is more expensive, because a great deal of money has to be spent on training and education.
- It may arouse expectations about career development among staff members that cannot be fulfilled.
- It creates expectations about the way in which decisions will be made.

All these problems were acknowledged in the Tilburg University Library project and created tensions from time to time. In all, however, the advantages of a more participatory management style are obvious and are in themselves a good reason for proceeding with mistakes and failures now and then.

ORGANISATIONAL ASPECTS

At the beginning, automation does not necessarily lead to organisational changes. Later on, however, it can have a tremendous impact on the organisation:

- reduction of professional technical staff. Often a shift of personnel takes place from technical services to service to the public;
- merging of acquisitions and cataloguing. In the library literature, this development is considered to be inevitable. Von Cotta-Schönberg (1989), for instance, wrote: 'A first and obvious instance of functional integration is the merging of acquisition and cataloguing. The reason for this is that in both cases a bibliographic record is created, usually less complete in the process of acquisition, but otherwise containing information identical with the essential cataloguing data.' This Danish librarian named several cases of merging in his country and added the library of Yale University in the United States. In the Netherlands, several university libraries have chosen this path, and among them are Rotterdam, Maastricht and Tilburg;
- end to the traditional division of technical services and service to the public. Whether this traditional division can be broken down or at least diminished

has come up for discussion. Some authors, such as Gorman, are very clear in their judgements. Gorman predicted that the division between public and technical service will break down in future because its inherent nature is harmful and wasteful of human resources. This traditional division can lead, in his view, to the development of separate camps with feelings of mistrust and competition.

Theory, however, is not practice. A report of the American Association of Research Libraries stated that thirty-six libraries reported some integration of tasks of technical and public service, but none indicated complete integration. (This ARL study did find some integration of staff through the assignment of multiple roles, dual functions or job rotation - between public and technical services. The report shows various attempts at combining functions in public and in technical service.);

- communication: information technology improves lateral communication and interaction between departments;
- information technology: I fully agree with the following statement by David Weber, the library director of Stanford University: 'Successful university library management is especially dependent on building expertise (on information technology) into the library organization when it is appropriate, and relying on outside expertise when that is the best model.' (Weber, 1988) Because of information technology, new positions in libraries have been created (such as the information specialist and the coordinator of database search services). Besides that, the next point will become more and more important in the years to come;
- close liaison between library and computer centre. More and more libraries in the United States and the United Kingdom are developing models in order to achieve a good working relationship with the computer centres.

Tilburg University has decided not to integrate the two departments, but to realise a close liaison between the library and the Computer Centre. Both the library director and the director of the Computer Centre report to the same member of the Board of Governors. These three people meet weekly. The two directors see each other at least twice a week. In order to manage the Tilburg Library Programme, a programme management was created consisting of top-level staff of the library and the Computer Centre.

In my opinion, there are two main reasons for a close relationship between the library and the Computer Centre:

1. The development of the library requires expertise that is not specifically library oriented, such as expertise on standards, architecture, hard- and software, etc.
2. The library information services have an impact on other services in the university; the integration of information services requires cooperation.

There is no recipe for a proper library organisation. Every library has its own history and its own characteristics. But, generally speaking, you may say that

automation and innovation lead to flatter organisations but also to more complicated organisational structures. More and more libraries are introducing aspects of a matrix organisation, project organisations and multiple-reporting structures. As a result, the task of a library director is becoming more complex and much more difficult, but much more interesting as well.

Talking about the organisational aspects of automation, the question arises whether the library should centralise or decentralise. Libraries all over the world are in different situations. There are libraries concentrated in one building and there are libraries divided into different branches all over town. Actually, this situation should not be of real importance in the automation process, but it can certainly complicate it. All in all, it is important that information technology gives us a marvellous opportunity to connect libraries, to use the same devices, to create central or distributed databases. In order to realise this, it is essential that the library director is in control of all the library services of the university and can work in close relationship with the director of the Computer Centre.

STRATEGY

First of all, the library's role on the campus must be reassessed. Changes in information technology will mean that users do not necessarily have to be within the library's walls to access its contents, nor will they want to be confined to the information resources that are physically within those walls. Libraries should consider carefully how they will deal with these developments. Each library will do so starting from its own situation. There will not be a recipe for that. Most important is that libraries think about their future and try to be pro-active, especially in the changing relationship with the user and with society, with publishers and with business and industries. A keyword will be the development of the liaison function, the role of librarians as intermediaries between the amount of information that is available electronically and stored in documents and the users who are interested in a specific part of this information or in a proper compilation of information stored in various places, in various files and databases. Librarians can play a role in this process if they do not sit still and wait to see what will happen.

In my opinion, the major strategic concerns are:

1. the development of the intermediary role of library workers. Library staff will have to play a more active role in dealing with their primary users in order to realise the liaison role of the library;
2. the integration of local services: integration between library information service and the process of information handling by students and professors in order to produce new information and to improve the process of education;

3. in connection with the first two points: there will be a growing need to provide user facilities for personal and customised information management, covering the areas of interest of a specific user or a specific user group;
4. the changing relationship between the library and the authors/publishers. Authors will be able to deliver their articles directly to the publisher in electronic form, but will also produce more and more research papers electronically for a specific user group; these papers will not always lead to formal publications, but will need a proper classification and description by the library. In the next years, publishers will continue to deliver their products in hard copy, but electronic delivery to the library will increase, possibly setting a trend towards publishing on demand, which could gradually replace journal subscriptions;
5. focus on the market, especially on business and industry. The library can develop services which can be an asset in the relationship with various medium-sized and big companies to support their information needs. Such a relationship will provide the library with information about relevant market issues, it may serve society and it may lead to a decrease in the everlasting budget problems.

Finally, I would like to stress that innovation will be a continuous process. Do not think the job is done after the implementation of a new, automated system.

This strategic development requires:

- a growing involvement of staff;
- a great investment in training and education. The level of education required will generally be much higher than it is today;
- a close liaison between library and computer centre.

CASE STUDY: TILBURG UNIVERSITY LIBRARY

It is interesting to see how the management policies and staff attitudes changed in the history of library automation at Tilburg University.

- 1974 The library management had many doubts about the Pica project: '... the consequences are far reaching and the chance of disorder of the whole organization is great ...'
- 1976 Decision to participate in Pica. The library management calculated a possible reduction of staff by 3 full-time equivalents (fte).
- 1978 The majority of library employees opposed the automation planned. The complaints were:
1. There is no planning regarding personnel. No clear view on job rotation and job enrichment.
 2. Uncertainty. There is a lack of planning concerning local library automation (acquisition, circulation).
- 1979 Again the majority of employees opposed management plans. Their arguments were:

1. We are not properly informed.
2. We want to know how our jobs and our future tasks will be affected.
3. We want to know whether automation will bring organisational and functional changes.
4. Will automation change the type of work done in the library?

From 1982 the introduction of the Pica Local Library System was done by project teams. All departments and staff of all levels were represented in these teams. The introduction went relatively smoothly.

I think this example shows the importance of involving library personnel. Another aspect of this change was that automation was becoming more concrete than it had been before.

It is interesting to see how automation affected employment and the changes in functions and jobs in the library. Figure 1 shows the situation in 1977. There were 38 fte in the library. The majority of personnel were in scale 5, most of them library employees in cataloguing and circulation. This situation had not changed basically in 1982 after the introduction of shared cataloguing in the automated Pica system (see figure 2).

In 1992, however, there was a remarkable change. Figure 3 shows that new positions had been created. The gap between the highly educated staff and what had been the majority of employees had been filled up by a new type of staff: the documentalists and the information specialists.

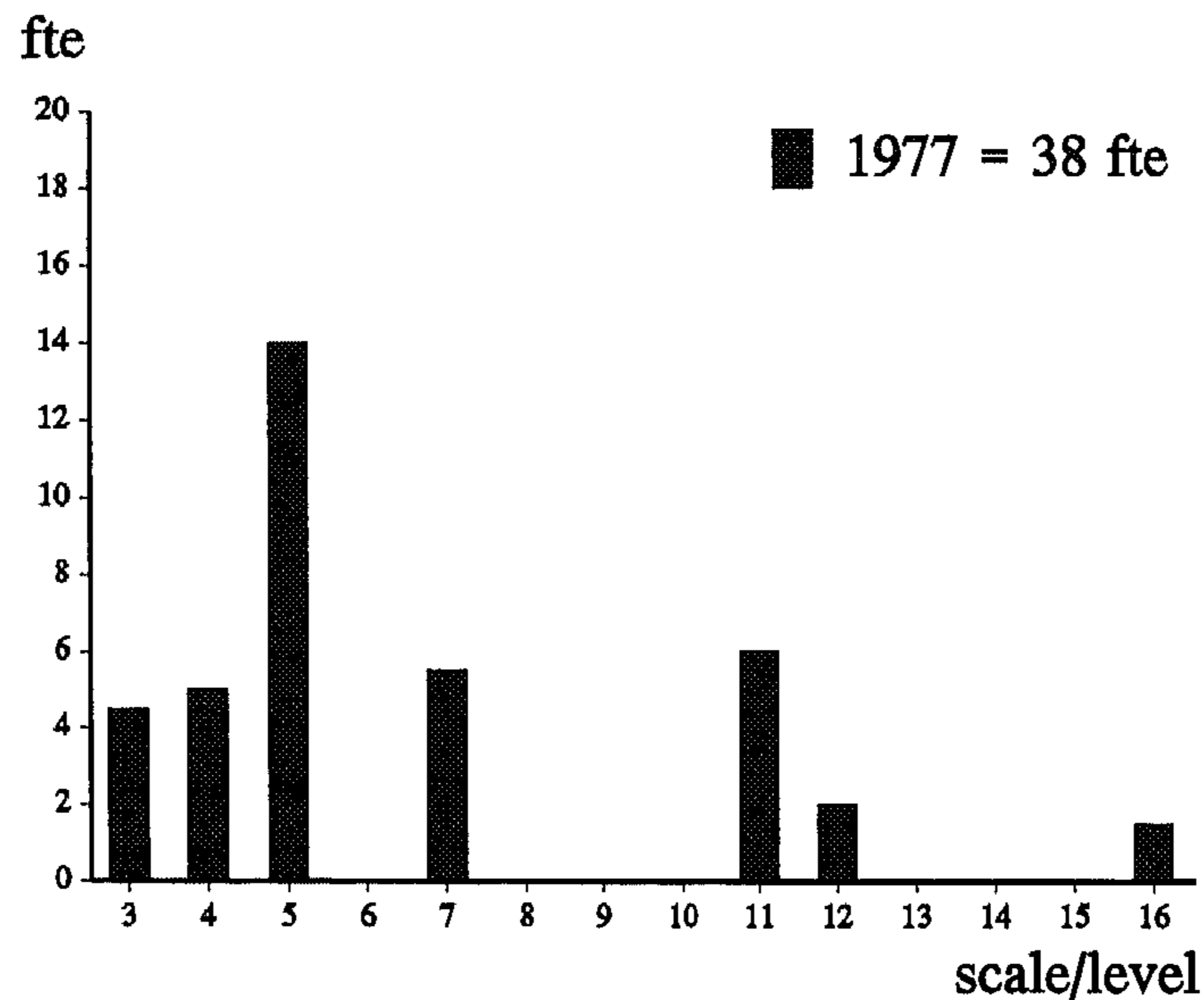


Figure 1: Functions and jobs in the library - 1977

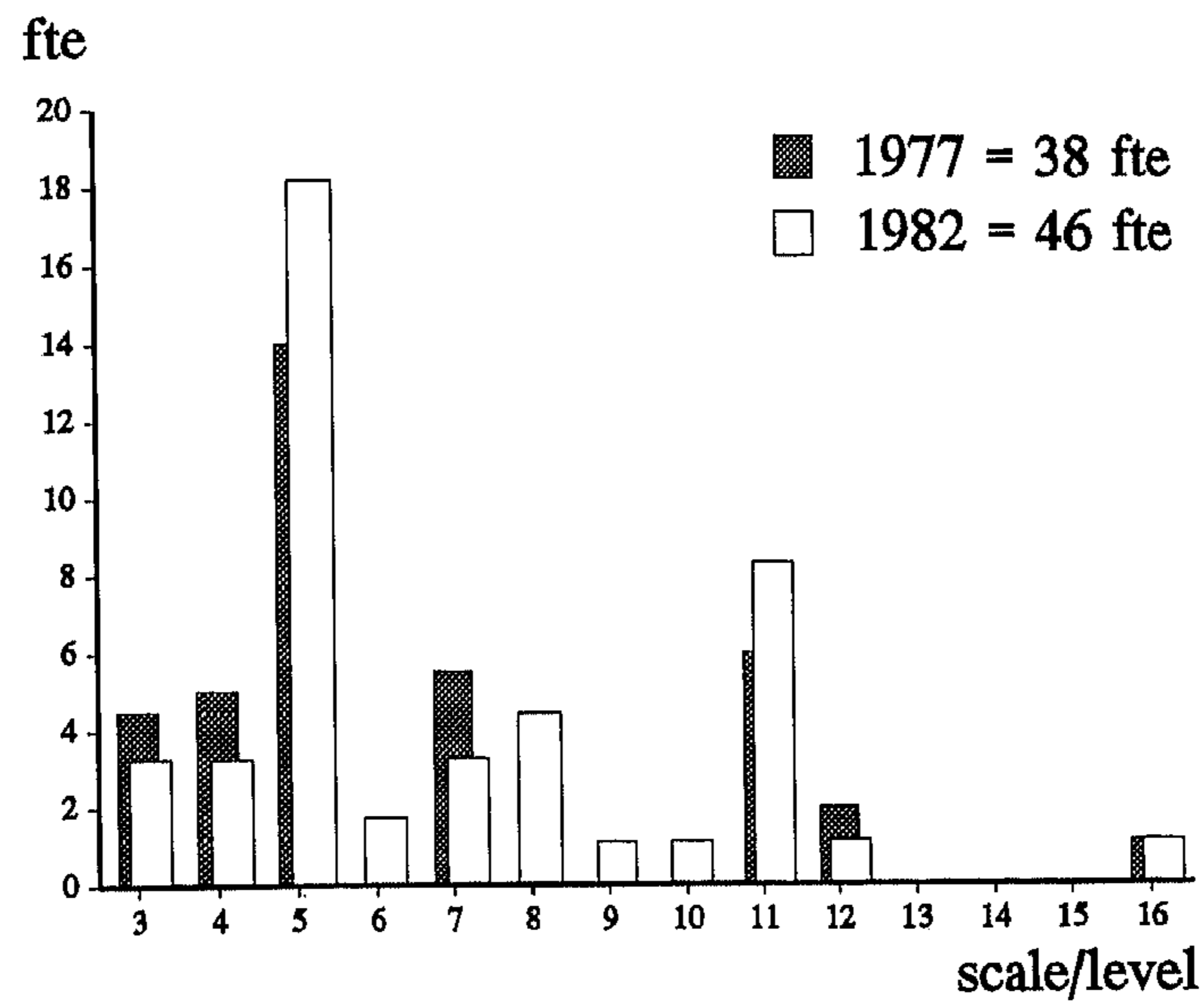


Figure 2: Functions and jobs in the library - 1977 and 1982

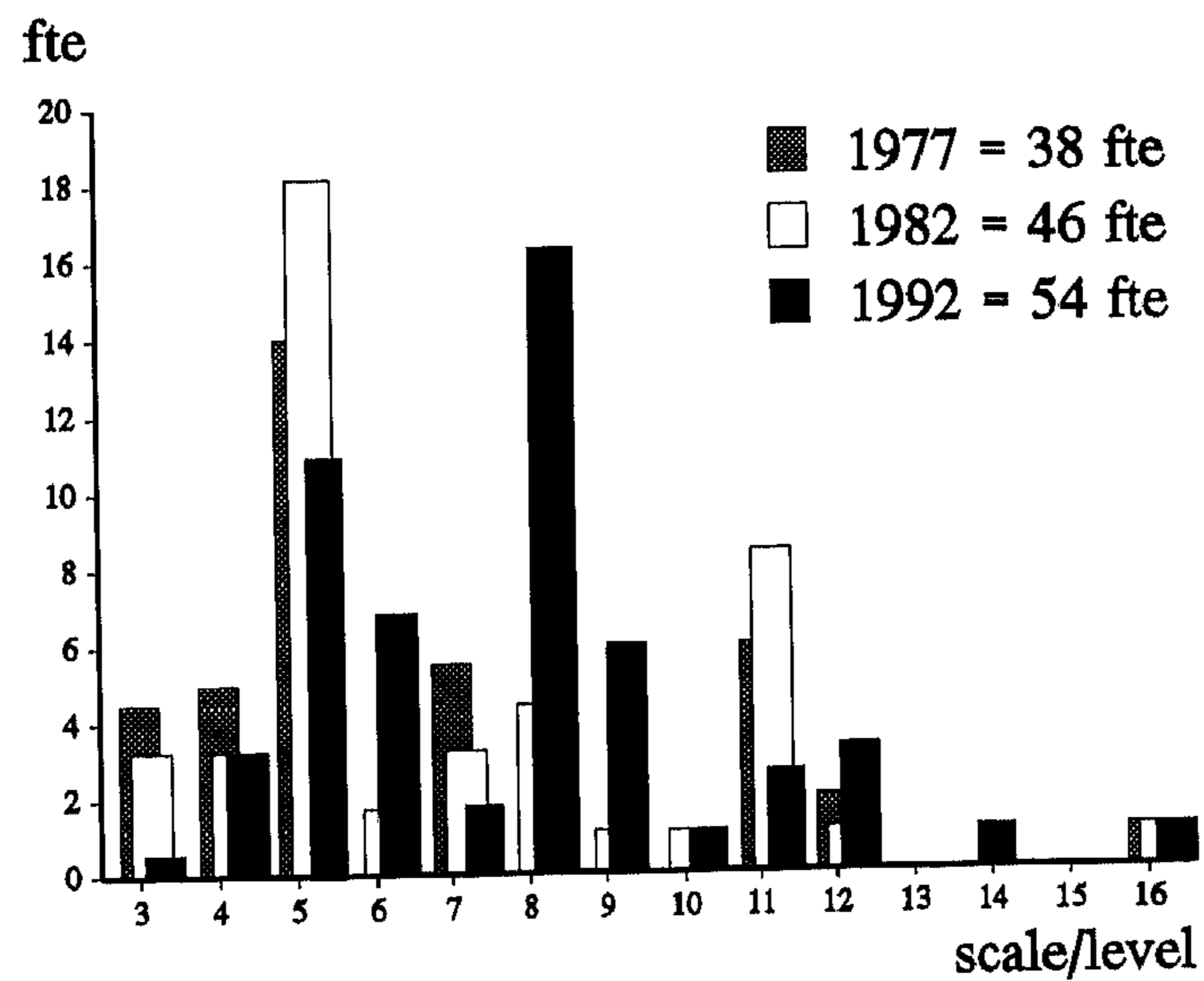


Figure 3: Functions and jobs in the library - 1977, 1982 and 1992

It would be fair to say that this development was not the result of traditional automation in the field of circulation and acquisition. This development was the result of a deliberate policy to focus on new services, to develop in-house databases, to change the content of the majority of the jobs and to further a shift from administrative and technical jobs to information service.

The library personnel in pay scales higher than scale 8 were to have an advanced library education and a basic education in a specific field of science, such as applied computer science, law or history. Without those initiatives, the total staff certainly would have been decreased.

Another point I should like to stress is the figure of 54 full-time equivalents on a regular basis in 1992.

In 1982 the number of staff was 46 fte. Now - because of a reduction in the budget provided by the university - it is 44 fte. Ten full-time equivalents, however, are paid by the library with money from several contracts with the government and with business and industry. So, in the Tilburg situation, innovation led to higher employment in the library.

After the opening of the new library in May 1992, this development continued. Because of the increasing use of library services, more staff was needed in order to maintain basic user support, to provide 'first-aid' computer support to students at help desks, to launch new projects, to strengthen the relationship with teaching and research, and to market new services. In the summer of 1993, the library had a staff of 62 fte and employed ninety-seven people.

Education

The personnel policy developed in this library in the eighties has been very important, making it possible to continue innovative developments.

In 1984, library management decided to set higher requirements for new staff. At the same time a campaign was started in order to promote further education of the current library personnel. People were told that if they wanted to move ahead in the library of the future, they should follow courses, attend seminars, etc. It was also considered to be the best way to improve information services and to make jobs more rewarding and more interesting.

As a result of this policy, thirty-three staff members - who are still working at the library - opted for further education in the period 1986-1992:

- Basic library education	4
- Information services	7
- Information specialist	4
- Information technology/Automation	6
- (Open) university, higher education	9
- Other courses	3
<i>Total</i>	33

Three more employees attended courses, but have left the library in the meantime.

In my view, this policy was essential for further developments in the library. The qualifications and expertise of the staff provide a solid basis for the future.

The basic factors for success were the cooperation with the Computer Centre and the quality and involvement of our staff.

An important risk factor, however, was the enormous pressure on staff and the question whether it would be manageable to provide daily services, to do much research on new products and to develop new services and introduce them.

In the whole process, we made three major mistakes concerning the human aspects:

1. At first, there was too much focus on technology.
2. From the very beginning more money should have been spent on people than on equipment.
3. Communication with staff was insufficient.

I will not say that everything is settled now. But I think we have improved and can still improve by:

- a more specific definition of milestones, defined goals;
- striving to find a balance between the traditional tasks of the library and the consolidation of newly developed services and new initiatives;
- a greater involvement of staff by giving more responsibility to various staff members;
- a reinforcement of management.

A new strategic plan in 1993

In the autumn of 1992, the library had to evaluate its situation and develop a new strategic plan for the years to come.

The new library was opened in May 1992. Many people responded positively to our new library services, but there were also problems in staffing, in the organisation, in trying to do too many things in a very short period of time. We also decided what our main goals would be in the years to come.

First, I will give an overview of the procedure we went through:

1. In June 1992, two people, the deputy librarian and a representative of the library personnel committee, had interviews with various library employees to make an inventory of the complaints, deficiencies and problems.
2. This outcome was used as an input for an assessment of the strengths and weaknesses.

Additional information, like external evaluation reports on the library services and on the future of academic libraries, literature, etc., were used for

the environmental scan.

This analysis was discussed at the meeting of the library management team in October 1992, and later in several staff meetings.

3. The management team had some brainstorming sessions on future strategy and the major issues involved.

These issues were also discussed with the management of the Computer Centre.

4. The library director made a first draft of a plan that was discussed, revised and improved in the management team. The plan included:

- assessment of the external and internal environments;
- goals and objectives;
- strategy towards a new organisation;
- staff required to achieve the goals and objectives in the next five years;
- personnel policy with respect to development, descriptions of the jobs in the library and education;
- data and statistics on library use.

5. In December 1992, a draft was sent to the library staff (heads of departments) and discussed in three sessions. The plan was improved and sent to all library employees.

Four meetings were held to inform the library personnel. Several points were discussed and clarified.

6. The plan was discussed in the Library Advisory Committee of the University.

7. The plan was discussed extensively in the committee of representatives of library employees. This committee included trade-union representatives.

Full agreement was reached with this committee on the goals, objectives and actions.

8. This procedure took about four months.

Meanwhile, the plan has been completed by the library. The Board of Governors of the University approved the plan. The University Council regarded it as a model for plans of other university departments.

For the library strategy, it was essential to find solutions to important external threats and internal weaknesses:

1. The library had promised much; great expectations had been created. The problem was to meet these expectations, not just for a month but permanently.
2. The library had acquired a leading position in innovation, not only in the Netherlands. Being the first to implement new services usually creates the risk of others who start later and can avoid your mistakes catching up with you.
3. There were many complaints from employees in various departments about understaffing and stress, resulting from an overwhelming number of tasks to be done, and by the sudden increase of information requests and requests for support.

4. The old organisation based on relatively independent departmental libraries housed in various buildings was evidently inadequate in a situation of centralisation of all library collections and personnel in one open building.
5. The improved electronic environment and integrated facilities on the desktop evidently caused a decline in physical contact with researchers.
6. The last, but probably the most important, question was how to enhance the integration of the use of information - provided by the library services - in education and research.

The most important conclusions and actions were the following:

Three central, strategic goals were set

1. to provide high-quality support to users in the library;
2. to improve tailor-made information services, to implement tailor-made services for university staff and to foster the integration of information services with teaching and research;
3. to make innovation a permanent activity of the library.

A fundamental change in the organisation was necessary to achieve these goals.

The library is to have three departments, each of them linked to one of the three strategic goals mentioned:

1. a department for first-level user support;
2. a department for collection development and reference service;
3. a department for automation and development.

The plan also focused on the consequences for personnel, the staff qualifications required, the educational programme and the overall personnel policy for the years to come.

For library staff, there is now a clear framework for the coming years, with goals and milestones and resources. Communication lines have been clarified. Tasks are now more clearly attributed to departments and individual staff members.

In addition, I should like to mention that we are now able to explain very carefully how big our problem of understaffing really was. To deal with this problem, the plan offered us a good opportunity to ask for a budget increase. Besides that, we decided to take proper actions to market new library services and to increase external funding.

CONCLUSIONS

It is important for every library to have a strategic plan. To think about your situation, about future developments and about what you want to do next, what you want to do in the years to come, is extremely useful. It is necessary for library staff to have a clear view on the goals agreed and on

the way their work and their ideas can make a contribution to new developments.

The library of the future starts with ideas. It needs cooperation, agreement on technology and standards, but most of all it needs the involvement and creativity of people.

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