

EFFECTIVE SPACE PLANNING AS AN ESSENTIAL TOOL FOR LIBRARIES TO TRANSFORM THEM INTO LEARNING CENTRES : AN APPROACH

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ABSTRACT

This paper describes the need of space planning in libraries. The opinion of library experts of India and abroad about space planning have been included. The requirements of digital and physical space in libraries have also been discussed. The methods and techniques for creation of physical and digital space have been suggested. Some good practices, systems as followed in libraries for creation of space have also been included in this paper. It has also been suggested how libraries can create digital space at remote locations to serve the library users and save the physical space for creation of better facilities, for the users in libraries, specially for the physically challenged users.

The efforts made for digital archives and digital preservation have also been stated. How libraries can use mobile technology, audio tours, Braille Scanning Software, OCR reading software etc. for visually challenged users, have been elaborated. The physical space of libraries can be used for night library facilities and services for users for their study and research.

Keywords: Digital archiving, Digital divide, Digital space, Information common, Night library services, Physical facilities, Physical space, Space planning.

1. INTRODUCTION

Libraries are considered as hub of any institution wherever these exist. All activities of institution are linked with libraries. Library has dual responsibility, it has to house or store the required reading material, literature and to facilitate the dissemination of information contained in the resources to users of library for their study and research.

Need not to add that libraries act as learning centres for their clientele in their respective institutions. Thus the proper planning of building and space in libraries, is an important task.

H. M. Reynolds¹ opined that due to typical services of libraries , planning of library building has become difficult task . Various factors such as educational methods and techniques, economic factors, architectural planning have effect on the library.

L. R. Wilson and M .F. Tauber² were also of this opinion that new methods of teaching and research, attitude of students and users of libraries require different models of library planning in educational institutions.

J. E. Burchard *et al.*³ have also stressed that the library buildings should be designed as per need and requirements of library activities. The facility and architectural combination should be planned accordingly and possibilities for future expansion should also be considered seriously.

S. R. Ranganathan⁴ was conscious about functional and utility aspects of library at planning stage, therefore, in his First Law of Library Science, he laid emphasis on location of library and considered it as an essential aspect. It was viewed by him that library should be centrally located to ensure the use of library resources.

Thus the location of library is very important . It should be free from noise and disturbance of transport / vehicles. The atmosphere inside of library should be calm and cosy.

The climate factor should also be considered and proper arrangements for heating cooling should be made and proper planning and measures for humidity control are also essential in library.

SCOPE OF PRESENT PAPER AND METHODOLOGY FOLLOWED

The present paper has been scheduled to describe the various opinions of library experts about space planning in libraries. Space requirements of libraries have been analyzed. It is the focal point of study how the existing libraries can plan the physical as well as digital space for meeting out the present space requirements for various types of needs.

Descriptive and exemplary methods have been used to describe the various related issues of space planning in existing libraries. Based on relevant literature survey , the techniques methods and good library practices have been suggested and described in a deterrent and remedial manner so that the existing libraries can be transformed into learning centres. The

techniques, methods and good library practices have also been considered as tools for this purpose.

2. NEED OF SPACE PLANNING IN LIBRARIES

Planning of space in libraries is necessary for systematic organization of reading material in print and non-print as such not only physical but also digital space is required by library at remote locations for placement and hosting of digital data for its accessibility.

Besides, the work space is required for staff and also space is required for users to facilitate the use of library literature and reading material available in library. The space is also required to organize and render the various types of services in libraries for the users. This is essential because libraries serve as important places for people to work, think, and collaborate. Many academic and research libraries are literally proving as cathedrals of learning with impressive architectural features. In fact library spaces are used as much to inspire ideas and feelings as these have to serve utilitarian functions for the clientele.

3 VARIOUS OPINIONS OF LIBRARY EXPERTS FROM INDIA AND ABROAD ABOUT SPACE PLANNING IN LIBRARIES

Cynthia K. Robinson⁵ in her study of George T Harrell Health Science Library, Pennsylvania State University, has found that ‘academic institutions, both large and small, seem to perennially face space pressures. Construction costs continue to rise, some institutions are land locked, and others may have land but insufficient funding to build. These, among a myriad of other reasons, will necessitate administrators seek out existing space when faced with a critical *administrators*, faculty, and students observe large blocks of space in libraries housing row upon row of bound journal volumes and see “books gathering dust”. ***While there is an acute need for space for alternative uses.***’

S.R. Ranganathan also advocated for selection of good books and regularly weeding out of books to have adequate space on stacks. His *Fifth Law*⁶ ‘*Library Is A Growing Organism*’ stresses upon the planning and organization, and it invites our attention to the fact that the library, as an institution, has all the attributes of a growing organism. A growing organism takes in new matter, casts off old matter, changes in size and takes new shapes and forms’. Thus the

planning of library and space should consider the future expansion also and there must be scope for addition and alterations to meet the future requirements.

B. K. Datta⁷ viewed that planning of library may be made considering libraries as heart of institutions.

K .S. Deshpande⁸ considered role of Librarian as significant in planning of libraries.

H. D. Sharma⁹ suggested that location of library should be free from noise and other disturbances as it is a place where serious work goes on .

Jffery Pomerantz and Gary Marchionini¹⁰ have stressed on the need and significance of space management and according to them the role of library as a storage space for materials will become decreasingly important, and the role of the library as a space for users, for individual and collaborative work, and as a space for social activity will become increasingly important.

They ¹¹ have further highlighted the feelings of users about the library space as :

- (i) A space that facilitates quiet study; (ii) A heaven for quiet and solitude;
- (iii) place for reflection and creativity; (iv) A comfortable and inviting location;
- (v) A contemplative environment.

According to K.C. Harrison¹² Physical planning in library is essential for effective learning environment and as it contributes a lot in quality library services.

Vicki Mix¹³ suggests the need for space planning for physical as well as remote space, because increasingly the libraries face challenges related to physical space needs, not only with in the main library but also in remote auxiliary locations for housing library materials. In many cases, there is little or no financial support for expanding building.

Thus on the basis of aforesaid various opinions of library experts, it can be viewed that now it is the right time to start for better physical as well as digital space planning not only for existing libraries but also for the libraries to be constructed in future. Thought provoking words of Cynthia K Robinson¹⁴ speaks volumes as she said ‘it is not in the library’s best interest to passively wait for the ‘others shoe to drop’ take the opportunity to redefine how library space could be used and it may be planned keeping in view needs of patrons in mind. Create an environment that will foster community and collaboration. Seek out partner , offer them space in

exchange for collaborating on a new service. Demonstrate how these changes would positively impact the core mission of the institution’.

4 REQUIREMENT OF SPACE IN LIBRARIES

The requirement of space in libraries may be categories as follows :

(i) Physical Space ;

(ii) Digital Space.

5 REQUIREMENT OF PHYSICAL SPACE WITHIN THE LIBRARY PREMISES

5.1 For storage of books, periodicals in print, data on electronic media such as CDROM, DVD’s, magnetic tapes, microfilm, microfiche etc ;

5.2 For placement of wooden and steel racks, almirahas, other furniture and fixtures etc;

5.3 For electrical items and electronic equipments such as computer servers, desktop computers, printers and other accessories, equipments etc.;

5.4 For network access centre for the students and teachers;

5.5 For reading room facility for the teachers and students;

5.6 Space is required for safety and security devices for library resources;

5.7 Space for physical facilities / amenities for the users and staff ;

5.8 Space to protect the environment and to make the library eco-friendly;

5.9 Space for Parking vehicles, cafeteria etc;

5.10 Heating and cooling provisions in library.

6 STRATEGIES FOR PLANNING PHYSICAL SPACE AND USE IN EXISTING LIBRARIES

6.1 Only need based print material books and journal may be purchased in libraries and purchase of print material in bulk , may be discontinued as far as possible ;

6.2 Use of e-journals and e-books may be promoted ;

6.3 Rare book collection may be digitized with the help of internal manpower or through out sourcing and may be hosted on institutional repositories or on available remote sites;

6.4 Inter library cooperation may be promoted ;

6.5 Less used print collection can be kept separately in library or may be transferred to dormitories ;

6.6 Creation of storage libraries and dormitories;

The creation of storage and dormitory libraries is a need of today . Existing libraries need space for circulation of actively used collection and for other such purposes .

6.6.1 CREATION OF STORAGE LIBRARIES AND DORMITORIES :

To create the space among existing libraries , libraries may select the print books and journals very carefully and these may be purchased if are essentially required by the users . Pools may be created to store the print data at local, regional, and national level. Inter library loan facility may be encouraged and enhanced. Some selected print material based on the requirements of readers should be acquired in individual libraries rest of the print material should be purchased at local, regional and national centres. In case of need , the users of libraries can consult the print document at these centres or photocopy of document or the document in original may be acquired on inter library loan by the library which has the requirement.

6.6.2 SCENARIO AND SCOPE IN INDIA

In India S R Ranganathan¹⁵ was very much conscious about space in libraries he also suggested a model and gave the concept of storage library or dormitory library. According to him preserving library material for posterity and for antiquarian research all through time is no longer made the responsibility of every library in country. This responsibility is given to one national central library in a country of small area. It may also be given to a few additional regional libraries in a country of longer area. In a federal state each constituent state also maintains a State Central Library to look after a similar responsibility with in the state. A library of this kind is called a storage library or a dormitory library. The term does not imply the absence of service functions. It merely emphasizes storage to be the distinctive function of such a library.

At present there is urgent need of such type of libraries in India. Though the concept of inter library loan is in vogue in India but it would also be better ,if the help of other libraries and data networks is taken for this purpose. The document delivery service started by British Council Libraries in India to provide documents on inter library loan is an unique feature.

DELNET (Developing Library Network) is too providing the document delivery service after collecting the required documents from member libraries. Document delivery service has also been started by INFLIBNET. However, now it is being provided through J-Gate for journal articles. These efforts need more effective implementation.

6.6.3 REGULAR WEEDING OUT OF BOOKS

The existing libraries can get the space after weeding out of their existing stocks of books and other reading material in print. It should be regular feature of the library and a method may be evolved for this purpose. In India the weeding out of old books, is also old practice in libraries. In big libraries such as in university libraries help can be taken of faculty in sorting out the less used or obsolete books to remove them from the stacks. These books can be sent to storage libraries and dormitory libraries. In Central Library University of Rajasthan Jaipur books published before 1950, have been kept separately to provide space for new books and actively used collection on the front stacks.

6.6.4 BAVARIAN LIBRARY SYSTEM OF GERMANY

This practice of dormitory libraries and weeding out of stock is also followed in libraries of other countries. The unique example is of Germany which is known as The Bavrian Library System : The Bavrian Archive and storage concept.¹⁶ In Germany every federal state has so called “State of Regional Library”. They have special libraries, some of which have national status. In the 1970,¹⁷ regional library networks were established. Their original goal was to facilitate electronic cataloguing and the creation of network (or union) catalogues, which listed the library contents of the entire region. Today there are six networks and they have become completely digital library service centres. When achievements are examined of storage systems, these networks represent a distinctively German characters and play a prominent role in the current archiving debate.

6.6.5 OTHER KEY FEATURES OF BAVARIAN LIBRARY SYSTEM

The key feature of this system is that university libraries are also coordinating and participating in this activity and these have important responsibility to run this system referred to as “extension activities”.

Besides new digital services for Bavarian Libraries¹⁸ are also produced via a division of labour. The Bavarian Consortia , under direction of the BSB, looks after the centrally coordinated cost effective acquisition of licensed databases and e-journals . The so called ‘Electronic serial Library ’ an independent user friendly e-journals system, offers e-journals to authorized users via Internet.

Keeping in view the importance of space for libraries the Bavarian Archive and Storage Concept has been conscious about influx of literature and they have policy in which the new influx of literature must be restricted to all libraries, this especially pertains to certain forms of book inflow, such as exchange with other libraries or the acceptance of gifts, which must be restricted to only what is absolutely necessary.

Moreover regular weeding out is made of collection statewide as per guidelines of Bavarian Ministry of Science formulated in 1997. After following these guidelines in Germany , the results of weeding out were astonishing as the number of items in 1993 was equal to 7 percent of the total number of acquisitions. By the end of the year 2000 this figure has grown to 27 per cent.

7 REQUIREMENTS OF DIGITAL SPACE BEYOND LIBRARY WALLS ON REMOTE LOCATIONS

In present context the existing libraries require digital space for the following activities :

- 7.1 Storage of archival digital data on digital repositories or on remote locations ;
- 7.2 Digital space on own institutional repositories to host the digital data for online access and use;
- 7.3 Collaboration with other digital data networks to contribute and share own digital data with them and to use their value added services.

8 STRATEGIES FOR PLANNING AND CREATION OF DIGITAL SPACE

- 8.1 Libraries may satisfy the administrators by demonstrating the need for change and requirements for digital space as essential for core mission of the institution ;
- 8.2 Libraries should prepare for shifting digital data for remote locations and to get the space ;

- 8.3 Libraries may offer space in exchange for collaborative activities and services , if they have their own repositories;
- 8.4 Library activities / services in digital environment may be defined as how these will be better than existing services and how staff will be used in changed environment;
- 8.5 Use may be planned of free sites available for digital space including free Cloud Computing and other sites for data uploading and retrieval . In beginning the library data in capsule format may be displayed on cloud computing sites and other such remote locations. Highlighting the importance of Cloud Computing Puttaraj A Choukimath, KB Agadi and Muttayya M Koganuramath¹⁹, considers 'cloud computing' as the latest buzzword globally. As it is being fast adopted by many business, industries and organizations. Ever since, libraries being the front runners in adopting any new technology tools, have found cloud based technologies helpful to avoid locally hosting multiple servers and equipments and constantly dealing with hardware failure, software installs, upgradation and compatibility issues. Cloud computing can enable simplified processes achieve economy in terms of time and money.

Namrata Joshi and Saurabh K Prajapati²⁰ also opines similarly as 'rather than purchasing servers, softwares, network, equipments etc., libraries can rent those resources as fully out sourced service'.

- 8.6 If libraries goes for cloud computing then in general the facilities which may be available will be as infrastructure, platform and software, which libraries can get after adopting cloud computing services. Thus libraries can not only save time and money but also these can save the space of libraries , which can be used for some other services and facilities for the readers/users of libraries. However, so far some of the issues relating to data security, uniformity, and trustworthiness of cloud partner may be private or public, are important issues for consistency of services.

Services of some other private cloud service providers such as Amazon, Apple, CISCO, Citrix, IBM, Google, Microsoft, Verizon etc. are available on payment or collaborative basis .

9. OTHER TRENDS AND CONCEPTS FOR CREATION OF LIBRARY SPACE

9.1 CREATION OF ELECTRONIC ENVIRONMENT TO FIND SPACE

Creation of Cyber space is an attempt and important task. It can be created not only in libraries but also access of library data may be provided to users at their home and some other convenient places, if they are not in library.

9.2 COMMON INFORMATION POOLS AS SPACE

Another trend has been found as 'information commons' are spaces deliberately designed to bring together the three components of which information science is composed. Information, technology and people. Information commons give collaborative use of physical spaces to which people come to use shared technological resources, as a means of accessing and utilizing information resources. Both types of information commons are shared spaces and both are efforts to foster social use and construction of technology and information. The Library of Congress²¹ is working on this concept and information on various common issues is collected from many sources and it is digitized and made available for the participating libraries from many countries for use. The service has been named as 'Web Archiving'.

9.3 ENCOURAGEMENT FOR COLLABORATIVE LEARNING BY LIBRARIES TO CREATE SPACES

The idea of social construction of information for masses is not a new one. In the field of education, this concept has been initiated in the pedagogical style called cooperative or collaborative learning. In this collaborative learning students work together in groups towards common educational goals. Libraries can support this and put selective information on web on the requirement of the group of users. The users can use the information on remote locations without coming to libraries. The Cloud Computing sites may be used for this purpose. Besides help of subject experts may be taken to provide selective information to selective group of users.

91. ANALYSIS OF PHYSICAL Vs DIGITAL SPACE

91.1 The distinction between physical and digital environments as space, is that of the accessibility of materials in those spaces. In a physical library, the user can gain access to the collection only by physically coming to the library. In a digital library, the user can

gain access to the collection electronically on Internet from any where without physically going to the library. Besides physical libraries maintain electronic components, however, electronic materials are not accessible physically and physical materials are not accessible electronically without digitization . Thus, the physical library has two mutually in accessible collections, the physical and the digital.

- 91.2 Recent trends shows that requirement for physical space for storing the print and non print material in libraries is becoming low while the requirements of space in library for users, for individual and collaborative work and for social activity is increasing .
- 91.3 Now , it is opined largely that digital libraries will grow and thrive as these libraries are the next version of virtual libraries and also are demand of future which has been made possible by the Internet and ICT (Information And Communication Technology).
- 91.4 The comfort and ease in use, instant availability, round the clock availability of data, portability of data in required format, printing and downloading , are such attributes which are attracting to the users of library for digital data making available online for the use through Internet.
- 91.5 It becomes difficult to alter the basic architectural planning of a physical library after it is built. While in digital libraries new space may be added or removed or altered and new pathways may be added for access of digital data.
- 91.7 From the libraries point of view, digital libraries offer more flexibility and lower cost architecturally

92 EFFORTS FOR DIGITIZATION OF AND DIGITAL PRESERVATION IN INDIA AND OTHER COUNTRIES

In India many organizations are helping in digitization of resources of libraries. These are as follows : Digital Library of India , INFLIBNET , DELNET , etc.

In India the initiative taken by 'Digital Library of India'²² is very significant and 'Institutional Repositories' specially created in universities are also playing important roles in digitization and digital preservation and data access.

The institutions in some other countries are also making efforts for digital archiving and preservation of digital data . Some of these are as :

DIAS²³ (Digital Information Archiving System) was started in 2003 by Koninklijke Bibliotheek National Library of Netherlands and IBM to develop the preservation subsystem called preservation manager. It is a electronic deposit system and preserving large amount of digital documents.

PADI²⁴ (Preserving Access to Digital Information) The National Library of Australia's preserving access to digital information initiative, aims to provide mechanism that helps in ensuring that information in digital form is managed with appropriate consideration and future access.

Some other significant project for digital preservation archiving are FEDORA (Flexible Extensible Digital Object Repository Architecture) was jointly developed by University Virginia Library and Cornell University's digital library group.

93. SUGGESTIONS FOR TRANSFORMING LIBRARIES INTO LEARNING CENTRES

The devices, technology, methods and good library practices as described earlier, are capable in saving the physical space of existing libraries. Not only that, if these technological advancements are followed then the new libraries may be started with the minimum required space. As the focal point in this study has been existing libraries hence it may be concluded that the well planned technological advancement can help the existing libraries in saving and sparing the space out of the available space in existing libraries. The space so saved in existing libraries may be used to create the following facilities for library users to convert them into learning centres.

93.1 FACILITIES FOR PHYSICALLY CHALLENGED USERS OF LIBRARIES

The space in existing libraries is required for physically challenged and disabled users /readers of libraries. The space may be used for the creation of ramp, provision of lift, and other reading aids for physically challenged users of libraries. Various equipments in separate rooms may be placed and provided for such users. The separate computers which have pro talking software, talking typing teacher software, Braille scanning software, Kurzweil OCR reading

software and device, magnification device, audio tapes etc. can be made available for visually challenged users. Similarly for hearing challenged users the hearing aids and other devices may be installed so that they can use reading material available on video tapes , these may be lectures, talks of prominent persons etc..

For physical challenged persons having difficulty in movement , the comfortable moving chairs and tables, writing aids may be provided CCTV cameras may be fitted in stack areas and close circuit TV may be installed in rooms for physically challenged users so that they may have the look of books placed on stacks.

Stating the importance of these facilities Muttayya Koganuramath²⁵ has viewed that when we talk of e-resources and e-services we should keep in mind all category of users and we must see to it that each and every user of library should get hassle free access to these resources and services. But unfortunately, this is not true with the people with disabilities. Many college and university libraries do not have proper infrastructure facilities to support the people with disabilities.

Drop box and self charging and discharging facilities may be provided within the library where such users can deposit and can get issued the books.

93.2 USE OF MOBILE TECHNOLOGY FOR USERS

The use of mobile technology can be ensured for physically challenged users in libraries to provide library services. The SMS alerts may be sent to such users. Information about location of library rooms and availability of required latest literature opening closing timings may also be provided to such users. The Library of Congress is using GPRS to provide library related information on mobile. It also provide Braille and Audio Reading Down Load²² web based service to visually and physically disabled users. It provides access to thousand of special format books ,magazines and music records.

Audio tours of library may also be arranged for such users to give them the feeling of library facilities and have an account of literature and services of library available for them.

University of Limberick²⁷ Library has devised such services as audio tour for their users.

93.3 COMFORTABLE AND ATTRACTIVE READING ROOMS

Keeping in view the comfort of users comfortable and attractive reading rooms may be created in libraries so that the users which comes in libraries may feel that they are at special place and spending their quality time in using the library literature and facilities. The furniture should also be comfortable which should support the concept of comfort zone.

The design of reading rooms of Joel Street Library Princeton University, William Oxley Thompson Memorial Library, Ohio State University are exemplary in this regard. The guidelines issued by Association of College and Research Libraries²⁸ for academic library building design supports this concept.

93.4 CREATION OF DIVISIONAL READING ROOMS

The creation of divisional reading rooms is also a concept which is followed in libraries of U.S.A. this facilitates the availability of reading resources near users. It was started in university libraries of Colorado, Brown and Nebraska²⁹ later on other libraries followed it as it was much suited and useful for the readers. By placing the reading rooms adjunct to the stacks users can pass with minimum of inconvenience. Moreover, librarians with special subjects training supervise the reading rooms, it becomes possible to concentrate on users and on a variety of services. Thus in present context this concept can be followed and if the reading rooms are not possible to create then reading area in pockets may be created near stacks.

The network access facilities for users may be developed in reading room area.

Survey conducted by Robert H Muller³⁰ reveals that librarians in USA have developed in university and college libraries, facilities for lecture room, seminar rooms, music listening room conference study rooms, photo laboratory, typing rooms, conference study rooms . Besides the librarians wanted to add further some other facilities such as staff lounge, kitchenette(near staff lounge), talking rooms, , coat check room, locker room for personal belongings.

Bureau of Indian standards³¹ has also recommended various types of the rooms in a library as per types and requirements of the libraries.

93.5 PHYSICAL FACILITIES AND AMENITIES FOR USERS

In a library these are very important. Serious attention may be given in creation of physical facilities and amenities. The W.C. and urinals should be well designed and users should

feel ease when they use such facilities. The proper sanitation should be ensured so that users should not hesitate in using these facilities. Special facilities may be created for physically challenged users of libraries.

93.6 AIR CONDITIONING FACILITIES

The proper facilities of air cooling, lighting is essential for the libraries.

93.7 NIGHT LIBRARY SERVICES

As part of physical facilities library hours play vital role in the promotion of the use of library services . S .R. Ranganathan³² considered it as a criminal offence to close the library at any time when people can conveniently use it. He was of this view that libraries should have all day and all night service, if so required by the readers. The Physical space of existing libraries may be utilized to create Night library facilities.

The Central Library University of Rajasthan, Jaipur on requirement of the students , open one reading hall popularly known as ' reading hall for research scholars for whole day and night for users. The students members of University library are utilizing this facility.

99. CONCLUSION

On the basis of description of the facts mentioned in this paper it may be concluded that the proper planning of space in libraries specially in existing libraries is very essential. The digital space created in remote locations can save the physical space of libraries. The physical space so saved can be used for creation of facilities for the users/readers of libraries, where they can make better use of library literature and services in a comfortable environment so that libraries can be converted into true learning centres.

It is right time for libraries to review the space requirements, review the literature needs print as well as digital so that proper planning of space may be made in libraries as per requirements and the help of architect may be taken for proper planning and design.

The facilities created for physically challenged users in libraries will avoid the 'digital divide' and 'library use divide' among the physically challenged users . Thus these facilities will help in fulfillment of the social obligation of libraries and libraries will also prove their existence .

A study by Catherine Closet Crane³³ supports this view that existing discourse takes a facilities management perspective dominated by concern with technology, equipment, and space requirements that does not address the physical, psychological and environmental qualities of library space design. Therefore, architectural programming techniques should be used in library planning and design that consider the architectural features and environmental design factors contributing to the making of a place where learning is facilitated.

Rachel Begg³⁴ has also reminded the librarians for further study into the impact of library space on users and stock, where use of space has wide reaching social, spatial and professional effects on libraries and their buildings.

Thus it may be further concluded that proper planning of physical and digital space in existing libraries is essential and need of today to save space and for induction of technological advancements so that the libraries can be transformed into learning centres.

Besides now it is right time for the librarians to become proactive rather than reactive in planning for future use of library space.

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