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# **BIBLIOTHECA ALEXANDRINA**

## ARCHITECTURAL BRIEF AND COMPETITION RULES

by  
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## FOREWORD

On 26 June 1988, the President of the Arab Republic of Egypt and the Director-General of Unesco laid the first stone of the new Library of Alexandria.

With that symbolic gesture, the international community took the first step towards effacing the disaster caused by the fire that burned down the old library nearly 2,000 years ago and its further destruction in later centuries.

At the meeting point of three continents, Asia, Africa and Europe, Egypt has been one of the cradles of civilization since ancient times. After the forty centuries-long development of the Pharaonic culture, the Greek dynasties that began with the Ptolemies made Alexandria the world's intellectual and commercial capital and metropolis. The museum they founded there in the fourth century B.C. became the world's first university with its college of wise men including such famous names as Euclid the mathematician, Eratosthenes the astronomer and philosopher and Hero the inventor of the first steam engine.

The great Library—which also served as a publications office—was built at the side of the museum. Anticipating our modern libraries in the way it was run, it had a catalogue of all the works it possessed—500,000 listed and classified manuscripts (already in the third century B.C.!)—and it also had the right of legal deposit, being entitled to make a copy of every book that entered the country.

This revival of the great Library of Alexandria is an

Egyptian National Project initiated by the University of Alexandria.

Oriented towards research, its purpose will be to encourage the cultural development of Egypt and indeed that of the whole of the Mediterranean area, Africa and the Arab world. As a modern instrument of communication and one of the nodes of the network linking up all the big libraries there are in the world today, it will also be a link with the past and a window on the future. Its visitors will find there not only collections of books and manuscripts but also audiovisual and electronic media (the intention is that there should be nearly 200,000 titles available when the Library opens in 1995, the ultimate target being 4-5 million), a science history museum and a museum of calligraphy.

An exceptional project requires an exceptional location.

The Library, to cover an area of 60,000 m<sup>2</sup> as presently planned, is to be built on a 4-hectare site provided by the University of Alexandria alongside the University Humanities and Social Science faculties, much of it facing northward on to the sea.

To enhance its urban impact, the future aim is to extend this new development over the Corniche on to the peninsula which stretches out to sea opposite the old Mameluke fortress of Qait Bay, across the East Harbour.

Since 1974, the University of Alexandria has been pursuing the drive for the adoption of the project for the

revival of the ancient Library of Alexandria. The persistent conviction and efforts of succeeding University presidents, and the tireless work of the preparatory and executive committees have been boosted by the vital support and efforts of the Ministry of Higher Education, the Ministry of Foreign Affairs, and the Permanent Delegation of Egypt to Unesco. The result has been that this significant international project has matured into the present concrete phase of its realization: the announcement of an international architectural competition for the design of the new Alexandria library.

This ambitious project initiated by the Egyptian Government has the support of Unesco and UNDP, which are thus its co-promoters.

An appeal for international contributions has been launched for this exceptional project in order to meet the cost of both the building itself and the collections it is to contain.

The promoters of the project felt that such a subject must interest architects the world over and, with the assistance of the International Union of Architects (IUA), they are therefore organizing a competition to select the architect to be responsible for putting the idea into effect.

This challenge to architects' imagination is highly symbolic; while drawing on the many centuries of successive civilizations that this superb Mediterranean site has seen, the architectural design of the new Library of Alexandria must qualify it as one of the gems in the crown of tomorrow's culture.

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## **BRIEF**

## PART I: INTRODUCTION

Founded in 332 B.C. by Alexander the Great after his conquest of Egypt, the town of Alexandria very quickly became one of the most thriving cities on the shores of the Mediterranean. Greek influence was dominant, imposed mainly by the dynasty that descended from one of Alexander's aides named Lagos, who seized power on Alexander's death in 323 B.C. Most of the population—soldiers, merchants, craftsmen and colonists—were Greek.

The first two of these kings, Ptolemy I Soter (who reigned until 284 B.C.) and his son Ptolemy II Philadelphus (285–246 B.C.) were determined not only to make Egypt independent of the other parts of Alexander's empire but also to give it the splendour of Greek culture. In order to attract men of learning they set up a temple of the Muses (*Museion*) in the royal palace in Alexandria (*Brucheion*) for the practice of the arts. The *Museion* included an observatory, zoological and botanical gardens, debating rooms and a library. In actual fact, it assumed the same role as the Lyceum in Athens (where Aristotle, the teacher of Alexander, had taught), namely that of a school of higher education, and the Egyptian kings gave it the status of a research institution.

Built by Ptolemy II Philadelphus on the model of the Aristotelian library, it made rapid growth thanks to the unremitting efforts of the kings of Egypt. Tradition has it that Ptolemy I Soter had acquired the library built up by Aristotle himself—one of the greatest collectors of antiquity. Well-known

works—like the Greek tragedies that were borrowed from Athens against a cash deposit—were brought to Alexandria so that copies could be made, often several at a time. All manuscripts found on ships anchored in the port were temporarily impounded for as long as was necessary for them to be copied. There is no firm evidence on how many papyrus scrolls were in the collection of the library in Alexandria. One estimate dating from the first century B.C. gives a figure of two hundred thousand. Other authors writing in ancient times go as high as seven hundred thousand.

When assessing what the library must have contained it has to be remembered that a scroll could comprise more than just one work and conversely a single work might require more than one scroll. The only standard feature was the length of a line—34–38 characters—which made it easier to calculate how much to pay the copier.

Events surrounding the disappearance of the collection are not very clear. It is known that the library was damaged by fire a first time in 47 B.C. during the siege of Alexandria by Julius Caesar but whether this was sabotage or accident is not known. A few years later Antony had the library of Pergamum (about two hundred thousand scrolls) transferred there by way of compensation.

Nor is any clearer explanation available about how the library finally came to disappear. Undoubtedly the replacement of the papyrus scroll by the *codex*—a

set of pages bound together under a cover of wood or leather (like those discovered at Nag-Hammadi in 1945) and far more convenient to store and consult—is at least part of the reason for the fate of the library, since scrolls would have become rather old-fashioned. Some historians attribute the disappearance of what remained to fire.

We do know that this was the first library whose contents were classified and listed in a catalogue in accordance with the rules drawn up by Callimachus (305–240 B.C.), the teacher of Eratosthenes and, via him, of Aristarchus, both numbered among the early directors of the library. Callimachus laid down the manner in which works should be described, often giving titles to those that had none and indicating the number of lines in each. From this catalogue he extracted a bibliography of all Greek works known at the time, adding a biographical note alongside the author's name. The only knowledge we have of this catalogue (*pinakes*, i.e. tables or lists) is through the quotations from it that appear in the classics. Of the catalogue of the library itself nothing remains. Four or five scrolls from the third century A.D. contain fragments of a catalogue or lists of works and it is thought that some of these may have a connection with the library in Alexandria.

Was the P. Vindob papyrus G 40611 written in Alexandria and does its content refer to the library catalogue? As yet it is too early to say, we have to wait for the definitive edition<sup>1</sup>. What is clear is that

the method used for the epigram quotations is that of Callimachus.

Alexandria's rise to glory in antiquity was no doubt due to the vital role the city—and its library—played in the development of science and ideas. The greatest savants of the Hellenistic period (300 B.C.—300 A.D.) lived in Alexandria, drawn there in most cases by the humanism of Egypt's rulers. Attached to the *Museion* or using the resources of the library to back up their own discoveries, they created a powerful intellectual movement affecting every field of knowledge. Some of the most notable were Herophilos (circa 300 B.C.), who drew up the rules of anatomy and physiology, Euclid (330–280 B.C.), who invented geometry, Eratosthenes (284–192 B.C.), who calculated the circumference of the earth scientifically, Aristarchus (215–143 B.C.) and Denys of Thrace, who codified grammar, Hero (first century A.D.), who wrote several books on mechanics and automata and invented the dioptra, a surveying instrument later superseded by the theodolite and, finally, Claudius

Ptolemy (90–168 A.D.), founder of the technique of map-making and author of a major work on astronomy. In addition, a school of philosophy came into being early in the Christian era, thus providing a link between classical Greek philosophy and that of the Middle Ages.

However, the works in the library were not solely in Greek; the writings of other civilizations were also represented. Legend has it that 70 learned men were given the task of translating the Old Testament into Greek, hence the name *Septuagint* or translation by the seventy. Babylonian and Buddhist writings are also said to have formed part of the collection.

With its universal character, the library played a major part in the development of the Greco-Roman civilization, on which western culture is based, and several ancient texts that had disappeared from the Greco-Roman world have come down to us via the Arabs who had translated them into their language, presumably from the manuscripts found in Alexandria. The library was therefore an essential link in the historical chain of cultural continuity.

1. Cf. article by Hermann Harrauer: *Epigrammincipit auf einem Papyrus aus dem 3. JH. v. Chr. P. Vindob. G 40611. Ein Vorbericht*, in *American Studies in Papyrology*, vol. 23 pp. 49–53. Our thanks are due to the author of this article, to whom we owe the information.

On Callimachus and the library of Alexandria, see also the book by Kudolph Blum: *Kallimachos und die Literaturverzeichnis bei den Griechen*. - Frankfurt-am-Main. Buchhändlervereinigung. 1977. 360 columns.

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## PART II: OBJECTIVES

The initiative of the Egyptian Government to revive the ancient Alexandria Library has drawn favourable reaction throughout the world, mainly via Unesco channels. However, the intention has to be clearly understood: it is not to construct a building in the image of what the great library of old might have been—the ruins of Ephesus could have been used as a model—nor to try to reconstitute the ancient collections and create a kind of replica-cum-museum.

The purpose is to give Alexandria back the glory it had in ancient times by virtue of its library and to create, to that end, an institution that will become famous throughout the region for the quality of its services and the wealth of its resources: the object is to transpose the antique idea to modern times.

The new Alexandria Library will supplement the existing research libraries, including the WHO Regional Office Library and the Alexandria Municipal Library.

It is for these reasons that development of the Library during the first few years of its life will not be a linear process. The accent at the outset will be on the humanities, for which no good library yet exists. When that gap has been filled, attention will be paid to science and medicine, particularly since the present central library of the University of Alexandria could well be running short of space by that time. There will of course be a co-ordinating committee to ensure collaboration between the two institutions and harmonize policy on acquisitions.

The new Library will need to be attractive so that all users, including university students naturally form the habit of working there and using the Library's resources.

That is not to say, however, that the Library would be reserved for the exclusive use of the university. It is to be a public research library open to anyone in need of the facilities it will have to offer. Furthermore, it will be designed as a regional institution, its doors open to researchers not only from Egypt but also from all the countries on the shores of the Mediterranean and in the Middle East, as is already the case with the WHO Library.

Transposing the role of the library in antiquity to our modern world means that provision will have to be made for every existing and future technological facility. The running of the Library will be wholly automated and the computerized catalogue will be accessible on screen not only in the Library itself but also in the universities' various faculties and, later, in other universities in the region. The Library will become the centre of a bibliographical data network embracing all local documentary sources.

In addition, the different departments of the Library will develop a data base for the main fields covered by its collections: Hellenistic antiquity and the Middle East, the marriage of the Egyptian and Greek civilizations, the birth of Coptic Christianity and the influence of Islam with particular stress on the history of science in antiquity. This data base will

need to be accessible to researchers anywhere in the world via a regional host computer.

The Library will also be connected into the various networks currently supplying documentary information held in such scientific data bases as MEDLINE, BIOSIS and so on. A reader service, plus a well-run inter-library loan system will facilitate and accelerate scientific research.

Lastly, one cannot imagine a library nowadays that does not make use of all the information media available. There will therefore be special sections with modern equipment for projecting films and transparencies, printing and copying and using microforms, cassettes, videocassettes, videodiscs, compact discs, etc. This aspect is important if the Library is to perform the same role as the old one.

To ensure that the Library is properly run it will need to have efficient and well-trained staff. It is for this reason that an International School of Information Studies (ISIS) will be located on the same site, to operate in close liaison with the Library. Intended solely for students working for high-level or specialized postgraduate degrees, the role of ISIS will be to provide a supply of high-quality professional staff for the new Library and for other institutions in Egypt and the rest of the Middle East. ISIS, therefore, will be one part of a greater whole and, in its activity, will also be a reminder of the educational role of the library of antiquity.

The location which the Egyptian Government has



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made available to the University of Alexandria is close to the historic site of the ancient library, which has been identified within the walls of the royal palace. On the site itself a large Conference Centre is already being built whose assembly rooms can accommodate nearly 2,500 people. This building, which is nearly complete, will need to be backed up by other structures designed to ensure its rational operation, in particular for the holding of major international conferences, so as to provide a complex tailored to the requirements of the type of event which the city of Alexandria is bound to be organizing in the future. This cultural and scientific function

wholly befits the role that the Library—the ideal centre for the exchange of ideas—will be playing. Thus these ancillary services are included in this project so that all the buildings to be erected on the site will constitute a functional and coherent whole.

In conclusion, the project is unashamedly ambitious. The object is to give the lovely Mediterranean city of Alexandria, with its population of nearly three million, a vast, modern library, offering all the services to be found in similar institutions anywhere in the industrialized countries. In this way it will be possible for the old Bibliotheca Alexandrina to come to life again.

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## PART III: ORGANIZATION

The Library will be an autonomous «public organization» having its own legal identity.

Overall authority will be vested in its Board of Directors, composed of members including eminent public personalities, professors, academicians and representatives of concerned ministries and the University of Alexandria. The University of Alexandria will give technical and academic support to the project.

The Board of Directors will be responsible for laying down the policies of the project. A Director-General of the project will be appointed and will be responsible for the implementation of the policies and decisions of the Board.

In charge of the internal functioning of the Library (management, recruitment, acquisition policy and staff problems) will be the Chief Librarian. He will be supported by two Deputy Librarians each in direct control of a division of three departments.

The International School of Information Studies will be headed by a Dean. Although the School will have close relations with the Library it will come directly under the authority of the President of the University. These arrangements are set out in graphic form in figure 1.

The activities of the Library will be spread over six departments, each of them under a Head of Department.

### 3.1 PUBLIC SERVICES DIVISION

#### A. Cultural Activities Department

The Library will not be simply a collection of books but also a centre of high-level cultural stimulation. Activities under this heading will be of two types:

- Temporary exhibitions (books, engravings, photographs, paintings, cultural and scientific objects, etc.), and
- Artistic productions (poetry readings, literary, historical and scientific lectures, chamber music, etc.).

In addition a calligraphy museum will retrace the history of the art of writing, from hieroglyphics to modern characters via all the forms of script that have played a part in tradition, particularly in this specific region.

There will also be a history of science museum, but not confined to the display of scientific objects and explanatory panels. Press-button experiments will also be included to attract young people and students. There will also be a small planetarium.

The library for young people (14 to 18) will need to be a kind of training room where they will be able to learn how to use a well-organized public library,

familiarize themselves with the main library (their own being a kind of 'antechamber' to it) in an environment on their own scale where books are freely available, classified by subject. The staff there will have an educational role, the object being to introduce young people to the pleasures of learning and finding out things for themselves.

There will be a small Section to provide the technical services specific to this Department, at least for those parts linked with the Library.

In addition, a cafeteria and a news-stand/book-shop will be located near the main entrance. A post office (independent of the Library) should also be allowed for.

#### B. Books and Periodicals Collections Department

The Library proper will consist of an information area and the book-loan service plus various services of use in research: access to the computerized catalogue (OPAC), access to foreign data bases and the inter-library loan service. Five Sections will provide readers with access to documentary resources (open-access shelves of books and periodicals in subject order). Each Section will have its own specialized staff to answer users' questions, keep order and exercise some degree of surveillance in each of these five Sections' specific areas. These librarians will also

be responsible for the choice of books to be acquired and for putting books in order on the shelves.

Section I: General reference—dictionaries, encyclopaedias, multisubject and general periodicals, general bibliographies, etc.;

Section II: Geography, archaeology and history, including prehistory, with special emphasis on the Mediterranean, the Greco-Roman world, Egypt and the Middle East, the aim being to have the largest possible number of publications;

Section III: History of the arts, architecture, science, ideas, religion, philosophy, social and political science, and law. In this field, too, the accent will again be on essential subjects in the Library's specific sphere;

Section IV: Languages and literature, literary works of all ages and of all the main cultures with an attempt at exhaustive coverage in the Greco-Roman world and Islam;

Section V: Science and technology. This Section is to be developed at a later date but its importance will ultimately equal that of the others given the considerable role that the ancient library in Alexandria played in the development of the sciences in antiquity.

The closed-access storeroom will house all worn or non-essential books that the public will be able to consult or use the loan service to borrow.

## C. Special Collections Department

In addition to the books and periodicals in the above Sections, other increasingly numerous and varied media will be available to the public. They will be acquired and stored in four Sections whose salient characteristic will be their almost completely independent operation. All the library functions involved, ranging from selection to cataloguing and then on to the physical tasks of preparation for racking and for consultation at the library or at home will be carried out by the Department's own staff.

Section I: Audiovisual and electronic media, ranging from old engravings to photographs and transparencies and including all modern information recording and storage techniques requiring sophisticated equipment for retrieval, such as disc drives, compact disc players, microcomputers, language laboratories, etc.;

Section II: Manuscripts and rare books kept together for consultation under supervision because, by definition, such documents are valuable, if not unique. These collections will be kept on closed access shelves and consultation will be closely supervised;

Section III: Geographical and geological maps, maritime charts, archaeological records, plans of towns and historical monuments, the common requirement with all such documents having to do with their format and the need to store them flat in special cupboards in closed-access rooms. Large tables will be necessary for consultation purposes;

Section IV: Music. Here the library stock will be of three kinds: books on music and musicology, scores and sound recordings. Whereas it will be possible for the printed material to be consulted directly in open-access conditions, recordings to be listened to in specially equipped, sound-proofed cubicles or bor-

rowed and played at home will be kept on monitored shelving.

Thus the salient feature of this Department will be the variety of the items in the Library and their storage by type and nature in order to simplify the running of the Library both because of the media and storage arrangements involved and because of the specialized staff and equipment that are necessary.

The general catalogue of the Library will provide users with the identification and description of all documents by author, title, discipline and subject and an indication of where they are to be found on the shelves open to the public.

## 3.2 INTERNAL SERVICES DIVISION

As its title suggests, this Division will embrace all those services to which the public does not have access and whose function is to prepare for such public access and make it possible. The Division will consist of three Departments: Administrative Services, Technical Services and Operational Support Services.

## D. Administrative Services Department

This Department will consist primarily of the General Directorate offices and all the purely administrative services of the institution: secretariat, telecommunications, personnel, finance, translation, publishing and computer services. It will thus be the nerve-centre of the institution.

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## E. Technical Services Department

Whereas each Section in the Special Collections Department, because of the special nature of the materials, will embrace the whole range of document processing—selection, acquisition, cataloguing, preparation and public services—the same will not apply in the case of books and periodicals. Because of the sheer mass of the volumes involved and the space they take up the sequence of operations will be divided up among several Departments: the Public Services Department (B) will be responsible for selection, racking and consultation, Operational Support Services (F) for the physical processing of the books and this Department, Technical Services (E), for the intermediate operations: checking, cataloguing and indexing.

Book ordering, reception and checking-in will comprise a first Section in the Department. Classification, cataloguing and indexing will be subdivided into five Sections on the same principle as those in Department B. Periodicals and serials will form a separate Section.

A mini-section will be responsible for inflow to the internal library that the Department will need to operate for the processing of new acquisitions.

## F. Operational Support Services Department

This Department will comprise two types of support service:

- those specific to a library, i.e. binding, labelling, book conservation and restoration, photography and reproduction, printing, audiovisual, media, and

- those to do with the building: commissary, cleaning, technical maintenance, safety and security, garage and carpark, infirmary, staff changing rooms and showers, plant room and outdoor areas.

Both types of service will come within the one Department because different activities may need to be synchronized, e.g. cleaning/reception of material, checking of deliveries, etc. For this reason all these activities need to come under the same authority.

### 3.3

## G. The International School of Information Studies—ISIS

This institution, though not, in fact, part of the new Library will be an essential adjunct to it since it will come directly under the President of the University. Its links with the Library will be purely those of convenience: some of the students' training could and should be done in the Library's technical and operational support services. This makes close collaboration essential. It is also probable that some of the senior staff of the Library will be required to teach in ISIS, since the source of the most effective instruction will be the librarians' own experience and practice.

### 3.4

## Conference Centre Ancillary Services

Strictly speaking these services will not be part of the new Library but they are included in the project for reasons of convenience in view of the fact that the

Library is to be built on the same site as the Conference Centre and that this co-habitation will also be useful to the Library, particularly in its cultural activities. The services will comprise offices for the staff running a congress, for example, and a few meeting rooms—smaller than the Centre's three conference halls—for the special committees at a congress or for the members of the organizing committee. The Centre and its Ancillary Services will need to be designed as a functional sub-unit.

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## PART IV: FUNCTIONING OF THE LIBRARY

The linkages between the functional units of the Library are pictured in the chart showing its general operation (figure 2)

The units, differing in nature and size, fall into two groups: the Public Services Division (4.1) and the Internal Services Division (4.2), added to which are the International School of Information Studies (4.3) and the Conference Centre Ancillary Services (4.4).

One of the essential problems to be solved is that of the flows of books and periodicals between the various units as illustrated in chart II (figure 3).

Another problem is the flow of materials other than books, e.g. documents for the special collections, photocopies, mail, computer printouts (hard copy) and all furniture and furnishings. This is illustrated by chart III (figure 4).

A mechanical conveyor system will be needed. The on/off-loading points are shown in chart IV (figure 5).

### 4.1 PUBLIC SERVICES DIVISION

#### A. Cultural Activities Department (figure 6)

This might be said to constitute the showroom of the Library, the area where the widely ranging activities for the general public and secondary schoolchildren will be located. Large spaces will be needed for general movement and to encourage the public to use the Library. A special reception service will welcome and route visitors as necessary.

All the activities of this Department will be spread over a very large area called the Ptolemy Space, so named to remind visitors of the glory that once was Alexandria's and the primordial role played by the Ptolemies in attracting the men of science and letters that made such progress in scientific knowledge and ensured that it was passed on to posterity («Hall of Fame»).

From the Ptolemy Space there will be access to the multi-purpose rooms, the cafeteria, the news-stand/bookshop, the museums and the exhibition areas, the young people's library and the public cloakrooms and toilets. It would also be desirable for there to be convenient access from here to ISIS. The exhibition

areas, incidentally, should be the prolongation of the museums.

The young people's library will be an offshoot of the main Library in the sense that the same staff will run them both and that the processing of books there will follow the same internal procedure as will apply to the books in the main Library, except that loans to young people will be made separately in their own part of the Library, which will have its own theft-prevention system.

#### B. Books and Periodicals Collections Department (figure 7)

One of the routes from the Ptolemy Space will go to the main Library. This will be the only access to the Library and will be controlled. The checking of inward traffic will be cursory (e.g. to ensure no animals are taken in or to remind users to be quiet in the Library). That of outward traffic will be very strict, the automatic alarm system sometimes calling for immediate action by the staff in the event of attempted theft. The nerve-centre of the building's safety and security system will therefore need to be located at this point. It is from here, too, that it must be possible for public address announcements to be made to everyone working in the Library, whether staff or visitors (general alarms, closing time, etc.).

This control centre will separate the cultural activities Department from the Books and Periodicals Collections Department and it is of this latter Department that the control area will, both physically and functionally, be part.

Beyond the checkpoint, users will enter a spacious central hall named the Callimachus Hall in memory of the inventor of the cataloguing technique of ancient times. Of welcoming design, the Callimachus Hall will be a kind of buffer zone between the outside world and the Library itself. Visitors coming this far need to be able to grasp straightaway the services offered by the Library and note the route to the Collections Departments.

The Callimachus Hall will house the following:

- the book borrowing counters next to the readers' services offices;
- inter-library loan facilities;
- access to foreign data bases;
- the OPAC (on-line public access catalogue) screens for consulting the Library's computerized catalogue;
- a smoking room, and
- a photocopying room.

In addition this hall will be a kind of antechamber to the reading and open-access area. It should also communicate with the administrative services Department (D).

There may be considerable activity in this area at certain times of the day because all library users have to go this way. The traffic will generate noise which will have to be minimized by efficient sound-deadening measures so that people reading in the open-access area are not disturbed.

The five open-access Sections and the four special collections Sections will need to be seen from the Callimachus Hall. A user entering the open-access area should be struck by the silence reigning there and thus encouraged to preserve it.

Section I may be regarded as the heart of the collection or the hub of the open-access part of the Library. Functionally the Sections will be separate but, in the space they occupy, they could be organized as a single entity in spite of the considerable area they cover.

#### Floor area required in sq. metres

##### Section I (General)

30,000 volumes @ 150 volumes/m <sup>2</sup>	200
10,000 volumes periodicals	68
140 places for readers × 3 m <sup>2</sup> each	420
40 cubicles × 1.8 m <sup>2</sup> each	72
5 information desks	50
5 offices × 18 m <sup>2</sup> each	90
	<hr/>
	900

##### Sections II – IV

100,000 volumes @ 150 volumes/m <sup>2</sup>	666
50,000 volumes periodicals	333
320 places for readers × 3 m <sup>2</sup> each	960
40 cubicles × 1.8 m <sup>2</sup> each	72
5 information desks	50
5 offices × 18 m <sup>2</sup> each	90
	<hr/>
	2,171
	rounded up to 2,200

##### Section V

50,000 volumes @ 150 volumes/m <sup>2</sup>	666
100,000 volumes periodicals	333
320 places for readers × 3 m <sup>2</sup> each	960
40 cubicles × 1.8 m <sup>2</sup> each	72
5 information desks	50
5 offices × 18 m <sup>2</sup> each	90
	<hr/>
	2,171
	rounded up to 2,200

The ease with which library users are able to work will be increased if Section II (geography, archaeology and history) is close to the Maps Section in the Special Collections Department, if Section III (History of ideas, art, etc.) is close to the Manuscripts and Rare Books Section and if Section IV (Languages and literature) is close to the Audiovisual and Electronic Media Section and to the language laboratory in particular.

These suggestions should not be taken as categorical requirements. In fact, all the Sections need to be near one another and to the Library's technical and operational support services. The object, clearly, must be to design the best possible system of communications between these various units so that a salient feature of the Library will be its compactness.

Each Section needs to have a comfortable spot, near the information desks, to sit and read in.

The shelving in the open-access area needs to be designed so that the collections can be racked in clear order, keeping to the classification system adopted, which will need to be explained on bilingual notices (in Arabic and English), guiding the user by sure steps from the general to the particular. The generally six-high shelving will be concentrated in the centre of each area to avoid the sunlight and in order to leave room for the reading places along the outer walls where there is the best natural light. Wide passages will facilitate movement including that of the trolleys used by the Library staff in charge of the collections. At various places in the central part of each collection, 3/4-high shelving will be used to make it easier for users to find their way to the information desks or the exit.

Users will have a variety of types of workplace to choose from including varying sizes of table and rooms for group work (soundproofed and specially ventilated and lit but glass-partitioned so that the

Staff of the Section can keep an eye on what is going on).

Each Section will have several OPAC terminals in a group near the information desks in the Section; microfiche projectors will also need to be provided in the same area. Photocopying machines will likewise need to be provided in twos or fours in the same area so that the staff can ensure they are properly looked after and paper and chemicals topped up as necessary. Photocopiers are noisy and generate heat when in use, and the appropriate environment should be available.

The closed-access stores needed for old or little-used collections may be concentrated in one spot but within easy reach from the reading areas and the loan office or else dispersed (by section) in a number of store-rooms adjacent to the open-access area. A combination of the two possibilities is also conceivable. (The design floor loading in the closed-access stores has to be 1,300 kg/m<sup>2</sup> to permit changeover to compact storage at some time in the future.)

The most-used books will be those on the open-access shelving and the flow of books to and from the closed-access stocks will be limited, particularly during the first twenty or thirty years of life of the Library. Even so, the collections need to be grouped together to reduce the distance books will have to be moved.

Should the staff serving the open-access shelving have their own entrance/exit at the rear, the area earmarked for staff use needs to be out of bounds to the public.

## C. Special Collections Department (figure 8)

This Department comprises documents, other than books and periodicals, which the public has to be able to consult in special conditions, e.g. using special appliances (microfilm projectors, cassette or videotape players, microcomputers), special furniture (for maps) or individual cubicles (for listening to music or learning languages).

The open-access principle in this case is curtailed by these restrictions on consultation, possibly going as far as confidentiality in the case of very valuable documents.

These Sections also include books and periodicals relating to the fields covered by the special collections.

Access to these special Sections must be as free and open as that to the Books and Periodicals Collections Department and it too, preferably, should be accessible from the Callimachus Hall. Direct communication will be necessary between this Department and that of the book collections but steps must be taken at these interfaces to contain the noise generated by certain Sections (music and audiovisual and electronic media, etc.).

The unity between Departments B and C is underlined by the fact that there will be a connection to the on-line catalogue.

### AUDIOVISUAL AND ELECTRONIC MEDIA SECTION

The equipment in this Section will be grouped by type of appliance, each sub-section possessing the necessary units and monitored storage facilities and also specialized staff to assist library users. Since some equipment cannot be protected against theft, a

system will have to be provided whereby the staff issue it to users and the operations concerned are recorded via terminals connected into the central computerized borrowing system. The way this Section is wired will be extremely important, this needing to be done in the most flexible manner possible to allow frequent adaptation and modification as time goes by.

Since the use of audiovisual and electronic media may generate noise this will have to take place in sound-proofed, ventilated cubicles that can also be darkened if necessary. Two sound-proofed rooms will be available to the public for giving demonstrations of the use of the equipment. The microcomputers for reading CD-ROM will all be kept together and under the supervision of a specialist. The 50-seat language laboratory will also be soundproofed and the equipment will be under the control of the staff. Other materials—transparencies, photographs, engravings and other illustrations—kept in cartons and under staff control, will be available for consultation in an ordinary room or in cubicles fitted with projection equipment.

#### Floor area required in sq. metres

40,000 volumes @ 150 volumes/m <sup>2</sup>	260
15,000 volumes periodicals	100
50 places for readers × 3 m <sup>2</sup> each	150
20 cubicles × 1.8 m <sup>2</sup> each	60
Language laboratory—50 places	100
2 sound-proofed rooms	50
6 offices and workshop	150
3 information desks	30
Closed access store for documents	600
Total	1,500

## MANUSCRIPTS AND RARE BOOKS SECTION

Here well-lit, spacious reading facilities will be needed that are easy to keep under observation. There will be five cubicles for research requiring transparencies or microfilms to be projected (for comparison with manuscript, for instance).

The Section will contain 10,000 reference works in open access and up to 60,000 volumes in the form of manuscripts and valuable books in closed access storage but available to the public with the assistance of the staff. These works will have been chosen because of their rare nature—and hence their intrinsic and market value—and will therefore need to be kept in a special storeroom whose ventilation, temperature and humidity are designed for the purpose and permanently monitored. A small transfer chamber (airlock) will need to be provided when the temperature difference is over 10 degrees in order to prevent dewpoint condensation and its effects.

The most valuable of the books and manuscripts will need to be kept in one or more vaults of 50 m<sup>2</sup> to protect them both against burglary and against any other external causes of damage, in particular fire and flood.

Floor area required in sq. metres	
10,000 volumes @ 100 volumes/m <sup>2</sup>	100
10,000 volumes periodicals @ 150 volumes/m <sup>2</sup>	333
50 places for readers × 3 m <sup>2</sup> each	150
5 cubicles × 10 m <sup>2</sup> each	50
2 information desks	20
5 offices × 18 m <sup>2</sup> each	90
Transit room	24
Storeroom including vault (50 m <sup>2</sup> )	
60,000 volumes @ 120 volumes/m <sup>2</sup>	500
Total	1,000

## MAPS SECTION

This Section will include a room for consulting maps where large tables will be provided so that maps can be spread out on them. Special shelving will be provided for atlases (twice normal shelf height and with a large number of vertical partitions) or else special chests of drawers to enable atlases to be consulted without carrying them back to the place where the user is working. Books and periodicals will be stored on ordinary free-access shelving.

Individual maps will be kept in chests of drawers in a closed-access store next to the room where they can be consulted. Special trolleys (1.20 × 0.80 m) will sometimes be used for wheeling them to and from the consulting room so corridors will need to be of appropriate width.

Floor area required in sq. metres	
2,000 atlas @ 40 volumes/m <sup>2</sup>	50
8,000 volumes @ 150 volumes/m <sup>2</sup>	53
5,000 volumes periodicals	33
40 places for readers × 3.5 m <sup>2</sup> each	140
1 information desk	10
2 offices × 25 m <sup>2</sup> each	50
Closed-access storeroom for	
50,000 maps @ 120 maps/m <sup>2</sup>	414
Total	750

## MUSIC SECTION

The open-access room here will have 30,000 volumes on music and musicology, 10,000 periodicals on the same subjects and 20,000 musical scores, all theft-proofed. Their consultation—in which different editions of the same music will sometimes need to be compared with each other—will mean providing the reader with varying kinds of workplace, but all will need to be well-lit. A collection of cassettes, records and compact discs will be available in a nearby closed-access storeroom under the control of the staff responsible for issuing them (there will be a terminal for recording loans connected to the central loans desk) either for on-the-spot consultation in cubicles fitted with the necessary equipment or for use at home. There will be two music rooms for groups of listeners. The same rooms will also be equipped with TV for viewing operas, cantatas and concerts on video cassette and, in the future, videodisc.

Floor area required in sq. metres	
30,000 volumes @ 150 volumes/m <sup>2</sup>	200
10,000 volumes periodicals	60
20,000 scores @ 100 volumes/m <sup>2</sup>	200
50 places for users × 3 m <sup>2</sup> each	150
40 cubicles × 3 m <sup>2</sup> each	120
2 information desks	20
3 music rooms	78
4 offices × 18 m <sup>2</sup> each	72
Total	900



## 4.2 INTERNAL SERVICES DIVISION

The nature of their activities enables the *administrative* and *technical* services to be located together in the same type of area where the peace and quiet conducive to mental concentration prevail.

### D. Administrative Services Department (figure 9)

This set of offices, centred on the Director-General's office, will house the library's management structures.

One set of offices will accommodate the Director-General and the chief and deputy librarians; another nearby will be occupied by the head of the Department, the secretariat and the accounts staff; a third will be provided for staff with more general duties, such as translation, publication, telecommunication and computer work.

Relatively close access from the Callimachus Hall to this Department will be needed—particularly to the Director-General's offices.

### E. Technical Services Department (figure 10)

Most of the staff of this Department will be professional specialists working on terminals since all activities will be computerized, but they will also be handling thousands of books each year because the plan is to acquire books at the rate of 30,000 per

annum, with an annual growth of 3 per cent, from the date the Library opens, not to mention the tens of thousands of periodicals. The books will be transported in trolleys pushed by the staff or, later, by an automated conveyor system (see diagram IV, figure 5). In either case they will be placed in wooden or plastic boxes for easier control and to prevent damage.

The intention is to group the technical staff in Sections matching the five open-access Sections (B) to prevent confusion in the flows of books and so that the books reach the indexing specialists sorted into clearly-defined disciplines.

The periodicals and serials Section will be set apart from the others but linked into the book and periodicals distribution system because it will be the destination of 150 periodicals on average each day which then have to be sent on to the various public Sections (B and C) or put into the closed-access store. This Section will also be responsible for the preparation of periodicals for binding.

A small reference library will be available for the use of the technical staff, located centrally in relation to all the offices in this Department.

Not all work stations will be equipped with computer terminals from the start but as the years go by the number of work stations occupied—and therefore the number of screens—will grow, keeping pace with the development of the Library.

### F. Operational Support Services Department (figure 11)

Part of this Department will constitute one of the links in the chain along which books en route between the technical services (acquisition and intellec-

tual processing) and the public services (stacking on the open-access shelving or in the closed-access store) must necessarily travel. The connections between the three Departments therefore have to be smooth—whether by trolley or conveyor as shown in diagram II (figure 3). Everything possible must be done to prevent the flow of books from the technical services to binding and labelling (F 5) from intersecting the flow of books leaving these units on their way to the public services (B 6-10, B 14 and C 6-9), nor must the latter cut across the flow to the book-loan desks (B.3).

The operational support services will often be noisy and sometimes generate unpleasant smells. They will also create dust and waste. They therefore need to be isolated from all areas where silence and cleanliness are vital (the public areas and the offices). Since a considerable quantity of material—often bulky—will go through the Department, routes to and from the loading platform need to be simple and of appropriate design dimensions. Traffic organization is pictured in diagram III (figure 4).

The central computer room sets special requirements. It has to be accessible round the clock, communicate with the loading platform and at the same time be completely dustproof and immune to the vibration caused by the lowering of heavy loads on to the loading platform and their movement within the building.

The room for the reception and dispatch of packages will be the same as that used for the storage of mechanical book conveyor units (generally overhead in order to save useful floor space). If located near the loading platform and garage it will need to be protected against petrol fumes.

The binding shop will need to have natural north lighting with the workbench alongside the wall under the windows. The floor needs to be designed for a load of 1,500/m<sup>2</sup> and to withstand vibration.

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The laboratories (for photography and restoration, etc.) present dangers in the way of acid pollution and releases of noxious fumes. They will need to be well isolated and equipped with all the necessary systems to neutralize these risks both to the content of the building and to the general environment.

#### 4.3

### G. International School of Information Studies (ISIS)

Functionally, this is a separate entity with access via the Ptolemy Space if possible but preceding the checkpoint at the Library entrance so that ISIS can operate to different working hours from those of the Library. On the other hand the way into ISIS should be so designed as to deter the general public from seeking entry.

Precautions for the ISIS laboratories will be no different from those for the Library's technical services. The other accommodation will meet the usual standards for offices, for the areas reserved for teachers' use and for the lecture rooms (*cf.* 5.7).

#### 4.4

### H. Conference Centre Ancillary Services

The rooms making up this unit will meet the requirements set for offices and conference rooms in continuous use (*cf.* 5.7).

Together they should constitute a functional unit properly related to the Conference Centre, the plans of which are given in figures 20 et seq. The link with the Library is of secondary importance but the two should communicate with each other.

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## PART V: ARCHITECTURAL AND TECHNICAL REQUIREMENTS

The search for the Library's architectural style will need to be guided by economic, technical and functional criteria but also by aesthetic and symbolic considerations. The Library of Alexandria will owe its rebirth to the ever-cherished idea of the *Bibliotheca Alexandrina*, and its architecture must therefore be unique or, at very least, striking. This should be no barrier to a sober and simple design. Given the location of the site, compatibility with the urban environment and with the buildings along the Corniche at this point will be a further desideratum.

Requirements as regards the functioning of the Library are described in Part IV. In the following paragraphs, competitors will find the same requirements set out in the form of general requirements applicable to the project as a whole.

### 5.1 ACCESSIBILITY

The Library/Conference Centre complex needs to be easily accessible by road. The entrance to the carpark and a space for cars not entering the site to offload should be allowed for on the south side in Port Said Street. Parking spaces for ten motor coaches will also be needed on this same side of the site.

People coming on foot from the town or directly from the University buildings (the biggest traffic flow) will have to cross Port Said Street. A subway or footbridge (ground clearance in this case 4.50 m) could be considered as ways of facilitating this crossing.

The same problem arises on the waterfront side of the site with regard to the possible use of the seashore for recreation and leisure. Since road traffic on the Corniche is even denser and faster than it is on Port Said Street, the same kind of answer could be considered for pedestrians. An important point to remember is that at the moment no building is allowed on the strip of land north of the Corniche so that any kind of construction connecting the Library with that area and passing over the Corniche must not serve any other purpose than to provide a crossing for people on foot.

The building itself should be easy to comprehend, so that users can grasp the organization of the Library at first glance and have no difficulty—with the help of efficient signposting—in finding their way to the services offered them.

The whole of the Library, apart from the closed-access stores and the plant rooms (F11, F12 and F19) must be accessible to disabled persons in wheelchairs. It must also be possible for trolleys used for carrying materials about to enter all the rooms in the Library without exception.

### 5.2 COMFORT

The features ensuring users' comfort are set out in 4.1.B. The requirements for certain rooms (5.7) give a general idea of the physical conditions that are required and the role to be performed by the different utility systems.

Designs will need to make allowance for the climatic conditions specific to the location. It will be of paramount importance to find a satisfactory solution to the problems of controlling solar penetration and humidity.

### 5.3 FLEXIBILITY

The architectural designs proposed will need to allow for the changes that will take place in the Library's internal arrangement with the passage of time. The type of structure proposed should therefore exclude load-bearing walls (as a system) and be based on modular planning grids so that layouts can be varied. The functional module defined by the distance between rack centres will be a minimum of 120 cm in the closed-access stores and 160 cm in the open-access areas.

For the same reason (flexibility) the design floor load for all the open-access reading rooms and also the offices will be 800 kg/m<sup>2</sup>.

In this connection, attention is drawn to the mounting importance of technology in information systems. The building as a whole needs to be designed to allow for constant changes to be made in the distribution of the data processing and telecommunications wiring in user and staff areas. A standby system should be provided to safeguard the operation of the Library at minimum level in the event of a breakdown in the mains power supply.

## 5.4 COMPACTNESS

The Library building will be arranged to reduce the movement of staff and books from the bookstacks to reader areas.

## 5.5 EXTENDIBILITY

The capacity of the Library building has been worked out so as to delay the need for expansion as long as possible. When that time arrives it will be possible to double the stocks of books by installing compact storage facilities and thereafter, but only as the next stage, by enlarging the physical capacity of the Library.

In anticipation of the first stage in this expansion process, the floor load in the closed-access stores is raised to 1,300 kg/m<sup>2</sup>.

The future extension of the Library is not part of the terms of reference in the competition but those entering are encouraged to state how and where such an extension could be added.

## 5.6 SAFETY AND SECURITY

Problems under this heading relate to the safety and security of persons—library users and employees—of the collections and of the building.

Apart from the usual constraints associated with the use of a public building, the hazards to be borne in mind in the case of a library are fire, flood, theft and vandalism.

Solutions to fire protection problems should comply with the regulations chosen (see 8.2.). It has to be pointed out that water cannot be used as a means of extinguishing a library fire.

Book theft and the wilful damaging of books are familiar phenomena the world over. The measures to be taken are as follows:

- have exits from reading rooms monitored (see 4.1.B);
- make it impossible for books to be removed from reading rooms and any related areas (via windows, balconies, etc.);
- keep to the minimum the number of spaces closed off or out of sight in all the reading rooms because it is there that pages are torn out of books and periodicals for example (this is why the public toilets are located away from the reading rooms);
- make it easy to photocopy books and periodicals where they are read.

At the architectural level, measures against theft by burglary are confined to the partitions around the

storerooms containing the special collections. At the technical level, provision should be made for the necessary installations.

The building should be designed so that vandalism, both internal and external, can be controlled.

## 5.7 SPECIAL TECHNICAL REQUIREMENTS

Detailed technical requirements for various types of room are as follows:

- Reading rooms and offices:
  - sound reduction factor 43-45 dB
  - natural lighting as far as possible
  - artificial lighting about 500 lux at table level
  - finishings designed to avoid glare
  - temperature 21-24 °C
  - relative humidity 55-65 %
  - air change 2 V/h
- Lecture rooms, classrooms in ISIS:
  - sound reduction factor 45-55 dB
  - finishings designed for acoustic absorption
  - natural lighting for classrooms
  - artificial lighting about 500 lux at table level
  - temperature 21-24 °C
  - air change 10 V/h
- Closed access book storerooms
  - artificial lighting about 300 lux
  - temperature 18-20 °C
  - relative humidity 45-55%
  - floor load 1,300 kg/m<sup>2</sup>
- Laboratories and workshops
  - designs ensuring acoustic absorption
  - variable artificial lighting about 500 lux
  - temperature 18-21 °C

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air change 2 V/h  
own air extraction system  
de-ionised water supply  
uninterrupted power supply for computer  
standby power source

– mechanical handling system  
The building should allow for a future book transportation system for both horizontal and vertical movement of containers of twenty books.

## 5.8 CENTRALIZED SYSTEMS

To ensure the satisfactory operation of the Library, a number of automated systems under centralized control will be needed. All information will be fed back to the checkpoint at the entrance to the Library. Systems will have to be capable of functioning independently in the various sectors of the building.

- power supply system
  - to all areas and work stations, the computer rooms receiving a stabilized, uninterrupted supply,
- heating, ventilation and air conditioning system to provide the conditions specifically required for each room,
- communications systems (see comments under 5.3)
  - telephone
  - telex
  - telefax
  - video, television
  - paging system
  - public address
  - alarm system
  - centrally controlled clocks
  - data processing
- security and safety systems
  - fire detection for whole of building
  - burglar alarm system
  - locally installed anti-theft system (see 5.6)

## 5.9 ECONOMICS OF PROJECT

Even with the prestige associated with the construction of the new Library in Alexandria, the capital and operating costs of projects submitted have to be reasonable in terms of the use of technologies compatible with operational and maintenance capabilities available in Egypt and strict observance of the areas and volumes specified in the architectural brief. Special attention should be paid to:

- treatment of outside walls, under constant exposure to sea spray, prevailing winds and rainstorms
- energy efficiency and management
- noise control.

## PART VI: FLOOR AREAS REQUIRED

### 6.1 GENERAL

A summarized list of floor areas required is shown in figure 12. Figures 12 A to 12 H give detailed information about individual functional units. Competitors are requested to keep as closely as possible to the figures specified.

The tables do not include:

- staff services units
- sanitary facilities
- circulation spaces
- mechanical and electrical equipment rooms and duct shafts.

Services units are sets of rooms housing the basic services provided for the use of the staff of the Library. They vary in size depending on the number of employees involved. The scale of provision is shown under 6.2 below.

The sanitary facilities—whether for the staff, library users or ISIS students—will all be scaled to comply with the same standards.

The dimensions of the circulation spaces are left to the competitors who are requested to follow the ratio generally applied.

### 6.2 STANDARDS FOR STAFF SERVICE UNITS AND SANITARY FACILITIES

Floor areas for staff services units should be based on the following:

- 1 kitchenette 6 m<sup>2</sup> per 40-60 employees,
- 2 photocopiers per 50 employees,
- cloakrooms: 0.3-0.4 m<sup>2</sup> per employee,
- 1 office supplies storeroom 6 m<sup>2</sup> per 50 employees,
- 1 cleaning cupboard 6 m<sup>2</sup> per unit.

Scales to be used for sanitary facilities:

Washbasins

Number of persons	Number of washbasins
1- 15	1
16- 35	2
36- 60	3
61- 90	4
91-125	5
for every 45 more	1

W.Cs.

Number of persons	Number of W.Cs.
1- 15	1
16- 35	2
36- 55	3
56- 80	4
81-110	5
111-150	6
for every 40 more	1

Urinals

Where urinals are provided the number of W.Cs. can be reduced by the number of urinals installed provided that the number of W.Cs. is not reduced to under 2/3 of the minimum specified.

The floor areas of the toilets for the public (located outside the monitored area) and for ISIS students are to be provided to the same standard as that set out above and allowing for equal numbers of men and women.

The cloakrooms for ISIS students will be based on 0.5 m<sup>2</sup> per individual locker.

### 6.3 TABLES OF FLOOR AREAS REQUIRED (cf. Fig. 12-12 H)

## PART VII: THE ENVIRONMENT, THE CITY AND THE LIBRARY SITE

### 7.1 HISTORICAL BACKGROUND

The city of Alexandria was founded by Alexander the Great in the year 332 B.C. near an ancient Egyptian township called Rakota (or Rakotis). The architect who produced the plan for the city was Deinokratis, who designed the streets 'so that they should be swept by the winds from the North'. The main thoroughfare followed roughly the same line as Al-Hurriyah Avenue today and the next in importance, at right angles to Al-Hurriyah, ran north-south; this was the present Prophet Daniel Street.

The southern boundary was the river Alexandria (now the al-Mahmudiyah canal). The site of the present city did not exist in the same form at the time of Alexander. Pharos was an island and it was Ptolemy Soter who built a causeway to link it with the mainland and erected the famous lighthouse on the eastern tip of the island.

Under Roman rule, the population probably reached 500,000, making it the Empire's second largest city. The first church to be built there was founded by Saint Mark in the first century A.D. Alexandria was overrun by the Muslims in 641 after a 14-month siege; power was transferred to Cairo, the city became a military base and its importance gradually declined. After better days in the time of Saladin and even a period of prosperity in

the fourteenth and fifteenth centuries thanks to the alliance with Venice, a further period of decline began in 1517 when the Turks took possession of the city.

In July 1798 Alexandria was occupied by the French and a few decades later Muhammad Ali connected it to the remainder of Egypt by rail and by road. The building of the Mahmudiyah canal enabled the neighbouring land to be irrigated and linked Alexandria with the Nile, thus restoring its supremacy over Rosetta and Damietta. In Ismael Pasha's time the old port—the commercial centre of the city—was revamped. In July 1882 Alexandria was occupied by the British and largely demolished. Later it regained its place as one of the Mediterranean cities with a variety of cultural influences and with its windows open to the rest of the world.

### 7.2 GENERAL INFORMATION

The present governorate of Alexandria is largely an urban area. It covers a total of about 2,700 km<sup>2</sup> and is located to the west of the Nile delta, lying approximately on latitude 31° north and longitude 30° east. It is bounded by the Mediterranean to the north, the

agricultural region of Behera to the east and south and the desert governorate of Matruh to the west and south-west (figure 14).

The town itself is built on a long, narrow strip of land between the Mediterranean to the north and Lake Maryut to the south and stretches out for a distance of about 35 km (figure 15).

The governorate totals a population of about 3.2 million, Alexandria being Egypt's second largest city after Cairo. With an annual growth of 3.4% in the urban areas, the population is set to climb to about 4.75 million by the year 2005. In 1984, 39% of the population was under 15, 27.8% between 15 and 29, 16.1% between 30 and 44, 10.8% between 45 and 59 and 6.3% 60 and over. The average density of the town, 295 persons/hectare, is very high.

In 1987 there were about 640,000 children in Alexandria's primary and secondary schools and about 80,000 students at the University. Forecasts for the year 2005 are: 1,187,000 children between 6 and 15, 332,000 teenagers between 15 and 18 and 574,000 young adults between 18 and 25.

Alexandria's cultural infrastructure consists of 12 theatres, 14 museums, 10 art galleries, 10 cinemas, 7 cultural centres (with libraries containing a total of 170,000 books), 4 science popularization centres and a municipal library with seating for 200 readers and 115,000 Arabic and 55,000 non-Arabic books, and 5,000 manuscripts. The comprehensive master plan

gives Alexandria 73 public libraries with 650,000 volumes by the year 2005.

Its tourism infrastructure consists today of 65 hotels totalling 4,500 rooms. Restaurants are very numerous. Alexandria is linked with Cairo and Mersa Matruh by rail, with Cairo, Mersa Matruh, Port Said and Sinai by motorway and with Cairo, Mersa Matruh and Sinai by domestic airlines. It has direct airlinks with Cyprus, Athens, Jedda, Kuwait, Frankfurt and also (soon) Paris and Amsterdam. There are regular ferry-boat services with ports in Spain, France, Italy, Greece, Turkey, Cyprus and Lebanon.

Urban transport facilities include suburban trains, trams, buses and taxi-sharing. Recommendations in the 2005 plan include rail electrification, two new east-west underground tram routes and rapid transit bus and long-distance boat services.

### 7.3 THE ENVIRONMENT

Alexandria has a Mediterranean climate. The influence of the desert conditions is tempered by the prevailing winds blowing off the sea and therefore coming from the north and north-west. This fact also limits industrial pollution and sand fall-out. But the proximity of the sea also has unfavourable and even disastrous effects that need stressing: the walls of the buildings facing the sea all along the Corniche present a picture of advanced erosion. The roughcast finish is the first to suffer but all wood and metal parts, including the reinforcing rods in concrete, are also attacked.

Temperatures are mild, always lower than those recorded in Cairo, whence the attraction of the town

for holidaymakers not only from Cairo but also from other countries. The population of Alexandria practically doubles in July and August.

Average annual rainfall is comparatively low but the relative humidity of the air is fairly high and constant.

However there are periodic wind and rainstorms during the late autumn and winter months. Seasonal sand-bearing westerly winds are normal in the spring.

Noise is an important problem because of the site's proximity to major through routes. Traffic on the Corniche which runs alongside is dense, fast and noisy. Port Said Street too is busy and noisy though the traffic is not quite so fast. Available data put noise levels at the side of these two roads at about 80 and 60dB respectively. The most important environmental parameters are given in Tables A and B of figure 16 and in figure 17.

### 7.4 THE LIBRARY SITE

The Library is to be built on a roughly 40,000 m<sup>2</sup> plot of land that is part of the town centre, facing the eastern harbour and the sea. Two parallel thoroughfares bound the site to north and south: the Corniche (Al-Jaysh Street) along the shore and Port Said Street.

Currently the Corniche is a highly important, 4-lane thoroughfare 15 miles in length. It is used by buses, taxis (shared and otherwise) and private cars. Under the 'Alexandria 2005' master plan, urban public transport will move to other routes further south, the Corniche being kept as a fast highway for cars. Port Said Street will also retain its character as a secondary, densely trafficked through road. Another

major road, Alexander the Great Street, will come within about 250 m of the site.

The link between the Library and the seashore will clearly be very important. Indeed the whole history of the Bibliotheca Alexandrina was marked by the Mediterranean cultures. The beauty of the land and seascape, the sea itself on to which the town opens out is one of the essential attractions of the plot of land that has been chosen for the Library. A last and vital point is that the promenade along the seafront offers opportunities for the relaxation and repose that will very probably be in short supply on the site of the Library itself. The problem of linking the Library with the seafront has already been mentioned (see 5.1 above). The peninsula on to which the Library will front is occupied by the military at the moment and it is impossible to include this yet in the framework of the study. At some time in the future, however, it could form a landscaped extension of the activity of the Library.

The University's law, commerce and arts faculties are located on the opposite side of Port Said Street, south of the Library site. The students in these faculties will be Library users. Access facilities for them are also discussed under 5.1 above.

To the east of the site there is a university hospital (maternity and pediatry departments). No direct access is planned from this direction.

To the west, on the corner of the Corniche and Abdul Rahman Rush'di Street, two residential buildings form an enclave that is alien to the principal use of the neighbouring land. These buildings are to be retained for the time being.

Part of the plot is occupied by the Conference Centre, which is to house congresses, conferences and similar events, whence the need to equip it with ancillary facilities. These are included in the brief for the competition (figure 12 H) and the project for the Centre is attached to the architectural brief to enable



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entrants to submit their ideas for the functional and spatial integration of the Centre with the ancillary buildings.

The average level of the site is 7 m above sea level and that of the water table 3 m below ground level. The relative heights of the acroteria of the front walls of the neighbouring buildings are shown on the drawings.

## PART VIII: REGULATIONS, STANDARDS AND TECHNICAL RECOMMENDATIONS

### 8.1 LOCAL BY-LAWS

#### BUILT-UP AREA COEFFICIENT

maximum 80%

This coefficient is the built-up area expressed as a percentage of the total land area

Total area of plot	40,000 m <sup>2</sup>
Area to be built (maximum) = 80%	32,000 m <sup>2</sup>
Area of Conference Centre (already built)	6,000 m <sup>2</sup>
Area still available for building	26,000 m <sup>2</sup>

#### FLOOR AREA RATIO (FAR) maximum 5

This is the ratio between gross floor area of the building and total land area

Total gross floor area	
authorized = $40,000 \times 5$	200,000 m <sup>2</sup>
Gross floor area of Conference Centre	20,000 m <sup>2</sup>
Gross floor area available for Library	180,000 m <sup>2</sup>

#### AUTHORIZED HEIGHT

Along the Corniche building line (north boundary of the site and in relation to road level)	20 m
At 20 m from the Corniche and in relation to road level	35 m

Between these two limits, building height is limited by an inclined plane:

Along Port Said Street	
with an inclined plane	30 m
3 vertical to 1 horizontal	
to a total height of	35 m

These limits can be exceeded in the case of small volumes serving technical or ancillary purposes

#### PROJECTIONS

Projections beyond the ground floor footprint are authorized on the following conditions:

- Maximum projection distance: 1.5 m
- Maximum length: 50% of length of building
- No projections at a height of under 4 m

### 8.2 STANDARDS

Design calculations for the building and for fire prevention measures shall comply with Egyptian, British or American norms, standards or regulations which are all used in Egypt and accepted by the authorities.

### 8.3 BUILDING MATERIALS AND METHODS

Most building materials in current use are available in Egypt:

- cements
  - steel for reinforcement
  - red ceramic brick
  - sand-lime brick
  - solid and hollow concrete blocks
  - various kinds of marble and granite
  - mosaic, ceramic and faience tiles
  - plaster slabs and plasterboard
  - aluminium extrusions (anodized if required)
- various heat-insulating, fire-resisting and water-proofing materials.

Most other materials less frequently used and of more complicated manufacturing technology have to be imported, e.g.

- metal wall-cladding panels
- double and triple glazing
- wood – in general
- specialized interior fittings
- conveyor, safety, information systems, etc.

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# **RULES OF THE COMPETITION**

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## PART I: GENERAL PROVISIONS

### Article 1 Purpose of competition

The Egyptian Government, with the assistance of the United Nations Educational, Scientific and Cultural Organization (Unesco) and the United Nations Development Programme (UNDP), has decided to build a new Bibliotheca Alexandrina on a site belonging to the University of Alexandria, on the 'Corniche'.

In order to ensure the architectural quality of the project, the three promoters have decided to appeal to the imagination of all architects throughout the world.

### Article 2 Type of competition

The competition shall be of the international, one-stage 'project' type, open to all architects meeting the conditions specified in Article IV, and shall be organized in accordance with the Revised Recommendation concerning International Competitions in Architecture and Town-planning, adopted by the General Conference of Unesco in 1978.

### Article 3 Organization of the competition

3.1 The contracting authority, organizer of the competition on behalf of the Egyptian Government, shall be the University of Alexandria, represented by its President.

3.2 UNDP has earmarked the necessary funds to finance the competition.

3.3 Unesco has financed and organized the preliminary studies and the writing of the brief for the competition and has made itself responsible for launching the competition.

3.4 The International Union of Architects (UIA) is to supervise the running of the competition in accordance with the Revised Recommendation concerning International Competitions in Architecture and Town-planning, adopted by the General Conference of Unesco, and will provide the technical secretariat.

Address of UIA General Secretariat:

51, rue Raynouard - 75016 Paris - France  
Telephone: (1) 45-24-36-88 - Telex: 614855 F  
Telegraphic address: UNIARCH

### Article 4 Eligibility and entry

4.1 All architects or teams led by architects in possession of documentary evidence of their qualification to exercise the profession of architect in their own country or their country of residence shall be eligible.

4.2 Persons who have taken part in the organization of the competition or the writing of the architectural brief, members of their families whether ascendant, descendant or collateral, their partners or persons sharing their professional interests and members of the Jury shall not be eligible to take part in the competition, directly or indirectly.

4.3 Every entrant shall be required to pay an entry fee of US \$150 by bank cheque to the order of 'Unesco-Bibliotheca Alexandrina' mailed to the Director, Office of Information Programmes and Services, Unesco, 7, place de Fontenoy - 75700 Paris - France. Should there be any difficulty in remitting US dollars, the fee may be paid in Unesco coupons. The fee shall not be refundable in any circumstances.

4.4 Applications for registration in the competition should be sent to the General Secretariat of UIA accompanied by the following:

- name, address and country of origin of the architect or team of architects desirous of taking part in the competition,
- documentary evidence of the architect's or team leader's right to exercise the profession in his or her own country,
- receipt to show that the entrance fee has been paid.

4.5 The information file on the competition shall be sent to every entrant meeting the conditions set out in Article 4 and whose entry is received by the date specified in Article 19.

## Article 5 Request for further information

Candidates who would like to have further information about the rules of the competition or more details about the architectural brief should make their request in writing and send it to the General Secretariat of the UIA by the date specified in Article 19. They will be answered by circular letter addressed to all competitors, listing all the questions raised and giving the replies provided by the organizers of the competition.

## Article 6 Dispatch and description of designs

The documents to be submitted by competitors (see Article 14) shall be sent by airmail date-stamped in advance of the date specified in Article 19, in one rolled-up form complying with the dimensional re-

quirements laid down by the international regulations, i.e.

- maximum length: 90 cm
  - length + twice the diameter: less than 104 cm
- The roll shall contain:
- two sets of rolled-up drawings,
  - two copies of written report,
  - identification envelope.

The address of the sender may be marked on the paper covering the roll in the knowledge that this packaging will be destroyed before the Technical Committee or the Jury acquire any knowledge of the designs submitted, anonymity thus being preserved.

Designs should be sent to the following address:  
Permanent Delegation  
of the Arab Republic of Egypt  
to Unesco  
1, rue Miollis  
75015 Paris - France

Projects that arrive after the date specified in Article 19 shall be declared invalid unless the Jury should decide otherwise.

Parcels containing designs shall be the sole responsibility of the sender until received and registered by the Permanent Delegation of the Arab Republic of Egypt to Unesco.

## Article 7 Anonymity

The anonymity rule shall apply throughout the competition up to the moment the Jury makes its final decision. The procedures and methods for maintaining that anonymity shall be as follows:

- Competitors shall fill in the identity form enclosed with the competition information file and place it in a sealed envelope.

– Each competitor shall choose an identity code made up of one letter and four figures and write that code on each of his documents (bottom-right and in 1 cm-high characters). The code should be shown on the identity form, the description and each of the drawings.

– Immediately the documents are received and registered, the code shall be covered over and replaced by a serial number. The envelope containing the identity form shall be placed under seal until the judging is over. A registration form shall be made out for each entry received listing the exact content of each package.

## Article 8 Preliminary scrutiny of entries

A Technical Committee of three professional advisers shall be appointed specifically for the competition, assisted by a team of local helpers.

This committee shall scrutinize all entries, before the Jury considers them, in order to check their:

- compliance with the rules, and
- compliance with the architectural brief.

The committee shall draw up a report on each of the entries which will be passed on to the Jury.

The professional advisers shall be present at all the meetings of the Jury in order to answer any questions that may arise regarding compliance with the rules and the architectural brief. They shall have no right to vote if all the members of the Jury are in attendance.

If this should not be the case, they shall be entitled to act as deputy member(s) of the Jury in place of any Jury member or members that are not available.

## Article 9 Judging of the competition

### 9.1 MEMBERSHIP OF THE JURY

The international Jury consists of the following nine architects and librarians:

Mohamed Aman	Librarian, Egypt
Jean-Pierre Clavel	Librarian, Switzerland
Charles Correa	Architect, India
François Lombard	Architect, France
Fumihiko Maki	Architect, Japan
Pedro Ramirez Vasquez	Architect, Mexico
John Carl Warnecke	Architect, USA
Franco Zagari	Architect, Italy
Mohsen Zahran	Architect, Egypt

Professional Advisers

Deputy members of the Jury:

Harry Faulkner-Brown	Architect, United Kingdom
Ahmed Helal	Librarian, F.R.G.
Jan Meissner	Architect, Poland

### 9.2 ORGANIZATION OF THE WORK OF THE JURY

At its first meeting, the Jury shall appoint a Chairman, two Vice-Chairmen and a secretary. One member of the Jury shall represent the International Union of Architects and ensure that the Revised Recommendation concerning International Competitions in Architecture and Town-planning, adopted by Unesco, is strictly applied.

The Jury shall then decide upon a procedure for examining, rejecting and finally selecting designs based on clearly defined assessment criteria.

The Jury shall award three prizes and several special mentions. The winner of the first prize shall be declared the winner of the competition. The number of special mentions shall be determined by the Jury on the merits of the designs submitted.

The Jury shall then produce a report stating the reasons for its choice and setting out all the procedures used during its deliberations. This report shall be signed by all the members of the Jury and presented to the authorities responsible for the competition: the Egyptian Government, Unesco, UNDP and the International Union of Architects.

The anonymity of the entrants shall be maintained until this presentation has taken place, at which time the identification envelopes shall be opened.

### 9.3 PRIZES AND SPECIAL MENTIONS

A total of US \$200,000 shall be awarded to the entrants submitting prize-winning designs as follows:

- First prize: US \$60,000
- Second prize: US \$35,000
- Third prize: US \$25,000

The remaining US \$80,000 shall be divided among the entrants awarded a Special Mention.

## Article 10 Exhibition

The competition shall be followed by a public exhibition of the designs submitted, which shall be held at the University of Alexandria after the Jury has reached its verdict. The date of the exhibition will be announced later.

## Article 11 Publication

It is intended that the results of the competition shall be the subject of a widely-distributed publication.

## Article 12 Action following the competition

The intention of the organizers of the competition is to make the winner responsible for designing and constructing the building once the necessary finance is forthcoming.

The winner will first be given a contract to work out the detailed implications of his design at the architectural, technical, functional and financial levels.

Next, the winner will be commissioned to put the project into effect. The contract will be placed in accordance with the regulations in force in Egypt with regard to architecture and engineering consultancy. The prizewinner will be expected to avail himself or herself of all the professional skills necessary to carry out his or her task. The names of the architects, engineers and bodies whose collaboration he or she intends to seek will be submitted to the contracting authority for approval.

Should the latter be unable for any reason to proceed as indicated in the paragraph above, the prizewinner, in accordance with the Unesco Recommendation of 1978 mentioned in Article 2 above, shall receive compensation equivalent to the amount of the first prize, i.e. US \$60,000.

## PART II: TECHNICAL PROVISIONS

### Article 13 List of documents supplied to competitors

The information file to be supplied to competitors shall contain:

- The rules of the competition
- The brief for the competition containing:
  - A description of the objectives of the organizers of the competition;
  - An historical note on the old Library of Alexandria;
  - The principles of the functional organization of the planned Library;
  - The architectural and technical requirements of the new building and the surface areas required;
  - Facts and figures about the city, the site and the environment;
  - Standards and regulations to be complied with;
- Chart showing the organizational structure of the Library (figure 1)
- Block diagrams (figures 2 to 11)
- Tables of surface areas (figures 12 to 12 H)
- Photographs of the site from various angles
- Map of the city in ancient times (figure 13)
- Map showing the Governorate of Alexandria (figure 14)
- Map of the city as it is now (figure 15)
- Tables of environmental data (figure 16)

- Wind roses (figure 17)
  - Map of the local area, scale 1/5000 (figure 18)
  - Map of the local area, scale 1/2000 (figure 19)
  - Plan of the site, scale 1/500 (figure 20)
  - Plans of the Conference Centre already constructed on the site (figures 21-28)
- The documents in the information file have been prepared in French, English and Arabic.  
The French version is the original and shall therefore be the authoritative version.

### Article 14 List of documents to be submitted by entrants

Entries shall be in the French or English language.  
Each entry shall consist of the following:

#### 14.1 Drawings

- Block plan, scale 1/500, showing the immediate environment and the extension north of the Corniche
- Schematic plans of the various levels, scale 1/500 for the important levels and 1/1000 for the others
  - 1 plan, of the competitor's choice, scale 1/250
  - 1 elevation, as seen from the north, scale 1/250
  - 1 elevation, as seen from the south, scale 1/250
  - 1 north-south cross-section, scale 1/250
  - 1 east-west cross-section, scale 1/250

- 1 general perspective view, at entrant's choice, together with additional perspective sketches if felt necessary.

Drawings shall be presented on four sheets, white paper, size A0 (84 × 118.8 cm), in duplicate, rolled and suitable for display.

Entries shall be in black and white; colour is not allowed. The metric system shall be used for all measurements. Reference level O shall be the average altitude of the land on the site, i.e. 7 m above sea level.

Any text accompanying the drawings shall be in French or English. North shall always be at the top of the sheet. The identity code shall be given bottom/right.

In order to standardize the judging of the drawings, entrants shall present their designs in the following order:

- Sheet 1: Block plan, scale 1/500, + perspective
- Sheet 2: Plan of selected level, scale 1/250
- Sheet 3: Plans of different levels, scale 1/500 and 1/1000
- Sheet 4: Elevations and cross-sections, scale 1/250.

#### 14.2 Written report

Competitors shall submit a descriptive commentary, in duplicate, size A3 (29.7 × 42 cm), of no more than twenty pages bound or stapled, on a short side, illustrating by text and drawings the urban,

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architectural, functional and technical design principles of the proposed design.

This description shall include:

- Tables of floor areas by sub-units and the general table summarizing the useful floor areas of the design by comparison with the useful floor areas in the brief and the useful floor area of the design as a whole and by level
- The four sheets of drawings reduced to the A3 format. The identity code shall be shown bottom/right of the first page of the description.

#### 14.3 Identification envelope

This shall be a sealed envelope with:

- on the outside: the identity number, and
- inside: an A4 sheet (21 × 29.7 cm) giving the names of the members of the team of architects and that of the leader, and giving address and telephone number and, where applicable, telex and telefax numbers.



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## PART III: LEGAL PROVISIONS

### Article 15 Insurance and carriage

Entrants shall be responsible for the cost of insurance and carriage of their entries up to registration by the organizer of the competition. The latter shall not be held responsible for any transport delay causing entries to be received too late.

The organizer of the competition shall be held responsible for the submitted entries throughout the judging period. The organizer shall retain ownership and the right to retain documents sent in by competitors in its records.

### Article 16 Application of the rules

By entering the competition, competitors signify their acceptance of the rules. Any departure from any of the provisions of the rules shall be notified by the Technical Committee and submitted to the Jury for decision.

The Jury shall have sole responsibility for disqualifying any competitor.

### Article 17 Rights of ownership

The organizer of the competition shall retain full ownership of any documents submitted by competitors, subject to copyright legislation and regulations.

The designs of the winner of the competition may be used by the contracting authority only on condition that the latter commissions the winner to conduct a study or to put the project into effect. The work of the other prizewinners may not be used by the organizer of the competition, in part or in whole, without their agreement except for purposes of publishing the results of the competition.

### Article 18 Disputes

Apart from the rules applying specifically to this competition, the Revised Recommendation concerning International Competitions in Architecture and Town-planning, adopted by the General Conference of Unesco in 1978, shall be applied. If the dispute cannot be settled amicably, the Egyptian courts will be asked to give a ruling.

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## PART IV: COMPETITION TIMETABLE

### Article 19 Main dates

Public announcement of the competition .....	1 September 1988
Final date for receipt of applications for registration .....	30 November 1988
Date competition files will be mailed to entrants .....	1 December 1988
Final date for receipt of questions from entrants .....	31 January 1989
Date consolidated reply will be sent to entrants .....	24 March 1989
Final date for entries to be airmailed .....	9 June 1989
Final date for receipt of entries in Paris .....	30 June 1989
Review of entries by the Technical Committee .....	July-August 1989
Study of projects by the Jury .....	17-24 September 1989
Announcement of results .....	25 September 1989