

A temple of knowledge

The Library of Alexandria was the ancient world's premier seat of learning — its eventual destruction an intellectual tragedy. Can its spirit be revived in modern-day Egypt? Alison Abbott visits the Bibliotheca Alexandrina.

Euclid wrote his *Elements of Geometry* there. Herophilus identified the brain, rather than the heart, as the centre of intelligence. Eratosthenes estimated the Earth's circumference with an error of just 140 kilometres. And Hipparchus calculated the year's length to within 6.5 minutes.

Founded in the fourth century BC within the Mouseion — a shrine to the Muses that also housed botanical gardens, a zoo, dissecting rooms and an observatory — the Library of Alexandria was a vast repository of knowledge for the Greek civilization that then dominated the Mediterranean. Its founding librarian, Demetrius, and his successors operated an energetic, sometimes ruthless, acquisition policy. They employed armies of scribes and teams of translators to copy manuscripts borrowed from other collections, or impounded from ships entering the city's harbour. At its peak, the library is thought to have contained some 700,000 manuscripts. But six centuries after its foundation, after being destroyed by a series of fires, the library disappeared — along with the civilization that had nurtured it.

Some 1,700 years later, the library's spirit has been invoked in a dazzling, US\$120-million building, which will be inaugurated next week. Known as the Bibliotheca Alexandrina, the complex will include museums and research institutes, a planetarium and a conference centre. Its centrepiece is a library that will eventually hold 4 million books, 100,000 manuscripts and 50,000 maps — as well as a world of digital material.

But modern Alexandria is no longer a leading intellectual centre, and Egypt's science base is rudimentary. The grandiose project has been criticized for concentrating money that some say should have been spent on improving the region's scientific infrastructure more generally. Some critics have questioned how many people will use the library. "People felt that the library was a big PR exercise," adds

Hisham Kassem, publisher of the *Cairo Times*. "There was also a feeling that it is hypocritical, to say the least, that a book may be accessible inside the library, but banned outside its doors." The *Cairo Times*, he notes, has suffered its share of Egyptian government censorship.

Such criticisms are no longer fair, retorts Ismail Serageldin, who became the Bibliotheca Alexandrina's first director in April last year. "In a time of xenophobia, fundamentalism and obsessionism, the library stands for rationality, dialogue and scientific method," he says. Its three museums, of antiquities, manuscripts and the history of science, represent the spectrum of Alexandria's cultural heritage: Pharaonic, Greek, Muslim and Christian. Most of the funds would simply never have been made available for other scientific or cultural endeavours, Serageldin argues.

The project has certainly established an impressive physical presence, 15 years after Egypt approached the Paris-based United Nations Educational, Scientific and Cultural Organization (UNESCO) for help. Egyptian funds were secured in part by the patronage of Suzanne Mubarak, the wife of the country's president. UNESCO attracted US\$65 million from a consortium of Arab countries, plus further offers of cash, expertise or books from other donors. It also

organized an architectural competition, won in 1990 by a Norwegian company.

The result is an edifice of Pharaonic proportions. The building, on the site where the original library is thought to have stood, exudes symbolism. Placed on a shoreline that is otherwise populated by shabby high-rises, it is designed as a circle, inclined towards the sea, dipping into the pool of water that surrounds it. The design represents "the Sun rising from the sea each day to greet new knowledge", a guide explains. On its south side, separated only by a raging highway, is the Mediterranean Sea. To its north, the library is sheltered by a huge, curved wall inscribed with letters and symbols from scripts of the modern and ancient worlds.

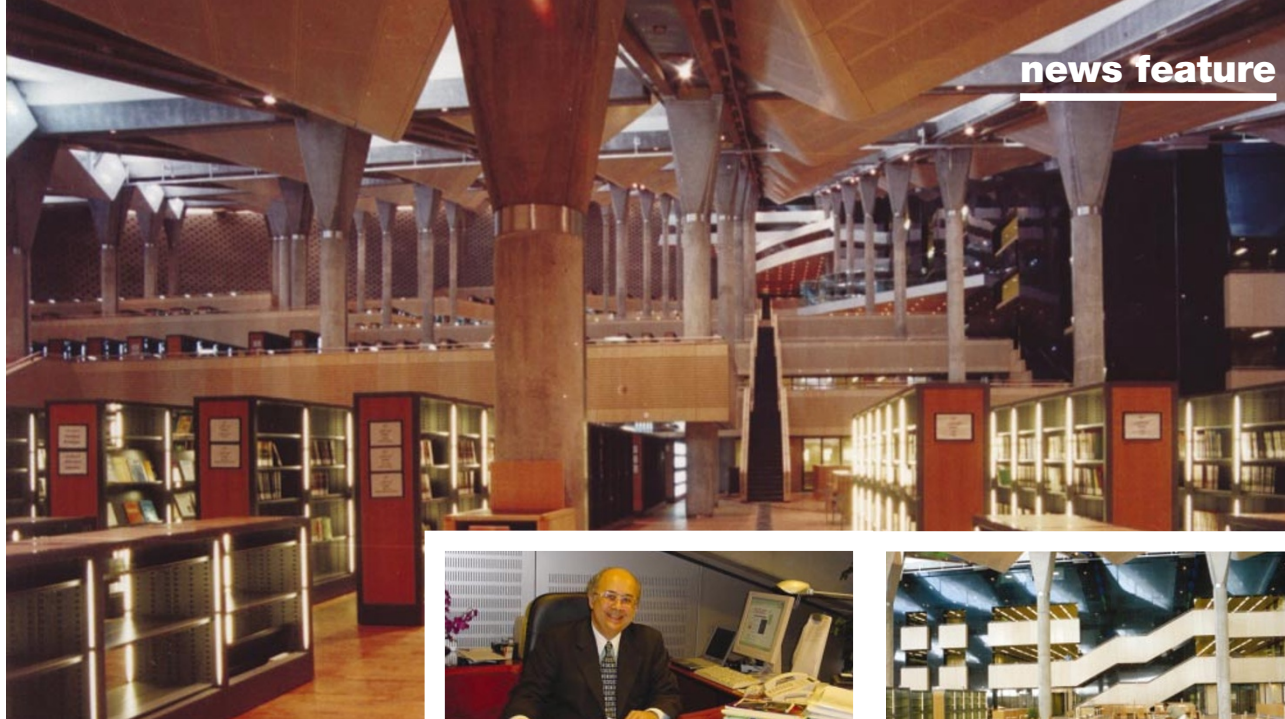
The circular roof is largely glass, allowing sunlight to illuminate the seven terraced floors of the library's reading room. The reading area is the largest in the world, with 2,000 desks, one-third of them already equipped with computer terminals. Its interior walls are faced with oxidized brass and black granite. The furniture is ergonomic and, like the building itself, is built to last.

Aware of the demise of the library's predecessor, the architects have incorporated a system of fire curtains that can descend to separate the vast open space into five sealed zones.

Walking into these surroundings, you could be in the richest, most learned country in the world. But Serageldin acknowledges that establishing a world-class library amid the poverty and bureaucracy of his native Egypt is a major challenge. "I'm always



A statue of Toth, protector of the scribes, watches over the Bibliotheca Alexandrina's reading room.



Man with a plan: Ismail Serageldin (right) wants the library's scholarship to match its splendour.



fighting with bureaucracy," he sighs. Fund-raising will also remain a large part of his job. "We need about US\$20 million to \$25 million per year to run the library," says Serageldin. One-quarter will come from the Egyptian government, but an equal sum will have to be obtained in short-term project grants, and the remaining half from endowments.

Serageldin brings to the project the interests of a polymath and three decades of management experience with the World Bank, where he served for several years as vice-president, overseeing the bank's efforts to promote sustainable development. He has published — in Arabic, English and French — in areas as diverse as architecture and molecular biology. "I feel my whole life has been a preparation for this job," he says.

Slowly, Serageldin is bringing order to a project that had threatened to drift. Over the past 18 months he has organized the Bibliotheca's statutes and focused its aims. Gone is the high-flown idea that the library should be a universal repository of knowledge — a claim that even the US Library of Congress, with more than 18 million books, does not make. "We want to establish ourselves as an international centre of excellence in particular fields," says Serageldin. "Our themes will be science, humanities and culture; also development, where water and gender will be the main areas." And the library will have a regional focus, accumulating material on its ancient predecessor, as well as on Egypt and the Mediterranean region.

A tour of the shelves, on which 230,000 books currently rattle around, reveals that acquisitions were more eccentric before Serageldin's arrival. Alongside fascinating collections on the history of embalming and ancient medicine sit handbooks on home repair and

decorating, and titles such as *Strength Training for Football*. "People were dumping books on the library," says Mohammed Aman, dean of information studies at the University of Wisconsin-Milwaukee, who has served as a consultant on the project. "The library was in the numbers game, not the quality game, but this is clearly being reversed now."

It may take two decades for the library's shelves to be filled. But Serageldin argues that the relative paucity of the current collection should not be a subject for criticism. The Library of Congress, he points out, built its current collection from just 6,500 books purchased from Thomas Jefferson in 1815.

Serageldin also stresses that the Bibliotheca's digital arm is at least as important as its books and papers. The library has already received many gifts of digitized manuscripts, including the only papyrus that survived the destruction of the ancient Library of Alexandria. It is also digitizing its own collection of 6,700 historical manuscripts, most of which were acquired from local institutes. One of the first to receive the electronic treatment is the tenth-century Arab scholar Ibn al-Haytham's *The Trace on the Moon's Face*, a sophisticated discussion of different theories that had been propounded to explain the channels visible of the Moon's surface. Browsers in the library may scan the manuscript, its Arabic transcription, and its English, French and German translations.

The Bibliotheca also plays host to the only mirror site of the Internet Archive, a project based in San Francisco that saves copies of otherwise ephemeral web pages — you can, for example, use the archive to follow the evolution of *Nature's* homepage since 1996. And the Bibliotheca will set up the Arabic part of the Million Book Project, an international

effort funded by the US National Science Foundation to digitize seminal books in various fields and languages. However, Serageldin warns that it will take another couple of years for the library's digital infrastructure to reach full capacity.

Another task is to set up a new research institute in a discipline that has yet to be defined, which Serageldin wants to serve as a catalyst in building collaborations between Egyptian centres of excellence and developed-world institutes. Such links may be vital for the Bibliotheca's success. Foreigners are unlikely to choose to work in Alexandria — the pay is too low. But Serageldin hopes to pay enough to attract the best in Egypt, and he is banking on collaborations with the United States and Europe to maintain a high scholarly level.

In this regard, however, the current tension in the Middle East poses a threat. The library's inauguration was originally supposed to have taken place in April, but was postponed because of the escalation of the Israeli-Palestinian conflict. Next week's ceremony will proceed against the backdrop not only of these continuing events, but also of threatened US military action against Iraq. Further instability within the Arab world can only make it more difficult for Egyptians to work with American or European colleagues — and perhaps play into the hands of fundamentalist elements who are suspicious of the library's goals.

As he prepares for next week's ceremony, however, Serageldin is doing his best to put these worries to the back of his mind. "I am proud to be following in the footsteps of Demetrius," he says.

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