Modern World Wonder

The great library of the ancient world, in Alexandria, Egypt, burned in A.D. 48. Now its successor, the Bibliotheca Alexandrina, is to open this fall after 25 years in preparation.

Fabulously sculpted by Norwegian architects, the library on the Alexandria harbor has been under construction for a decade. The edifice, shaped like a cylinder sliced on the diagonal, with its front end buried, is supposed to help restore Alexandria—no longer the exotic place it was in the 1950s, when Lawrence Durrell wrote his famous *Alexandria Quartet*—to its former cultural glory.

Eleven-story structure inclines to the Mediterranean.

After years of delays, library supporters are heartened by the presence of Ismail Serageldin, an Egyptian economist and city planner and former vice president of the World Bank, who took over this spring. Serageldin, whose international fund-raising wiles are expected to help bring the $210 million enterprise to completion, has pledged to devote the next decade to pilot the library to greatness. There's still a long way to go: The library has claimed a goal of 8 million books, but just 200,000 are so far in hand, including outdated investment guides and old copies of Ripley's *Believe it or Not*, *The Washington Post* reports.

Serageldin hopes to make the library an international center of expertise on scientific ethics. The international board of directors, which met for the first time this spring, features three scientists: Boston University geologist Farouk El Baz, Harvard biologist Stephen J. Gould, and Caltech chemist Ahmed Zewail.

El Baz says Serageldin is pushing to get the library on the cutting edge of communications technology. Also planned is a planetarium, calligraphy institute, a replica of Sweden's Nobel museum, and a conservation center for the restoration of ancient papyri.

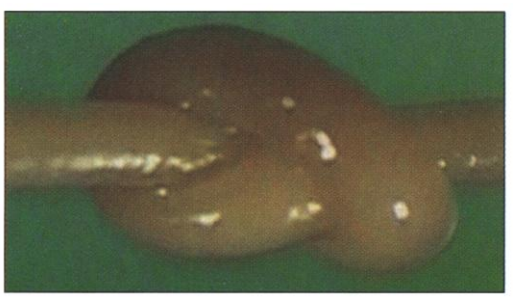
An opening celebration is planned for October, when the Bibliotheca Alexandrina plans to leap onto the international stage by hosting a 3-day conference on Biotechnology and Sustainable Development. El Baz says the "real" opening—when the library is actually wired up and full of books—won't come until next April.

Annals of Spaghetti

The world's biggest cooked spaghetti experts live 75 kilometers from Italy in Lausanne, Switzerland. When Random Samples claimed back in 1999 that DNA was best modeled with uncooked spaghetti, five Lausanne scientists from two universities shot back a strongly worded letter (12 March 1999, p. 1641). Cooked spaghetti, they insisted, provides a vastly superior model.

Now the Lausanne cooked spaghetti experts are at it again. In the current issue of the *New Journal of Physics*, a team of University of Lausanne physicists, including two of the authors of the 1999 letter, report that they have used a cooked spaghetti model to expose hitherto unknown intimate details of how knotted strings break.

Condensed matter physicist Giovanni Dietler says his team unsuccessfully tried to work with a host of materials before discovering that spaghetti strands coated with olive oil break at just the right rate for high-speed filming.



Pasta knot at moment of breaking.

The home movies reveal that knotted strings rupture just before the knot, where bending and tension are greatest. According to Dietler, it is the first formal demonstration that macroscopic materials indeed perform as mathematical models—and common sense—predict. "The firemen know this," says Dietler. "The fishermen know this. The alpine climbers know this." Now, with the aid of the humble pasta, scientists can say with professional certainty that they too know where knotted strings break.

Whoosh, Pow! Batman Eats Robin

Batman and Robin make a dynamic duo, but it might shock the Caped Crusaders to learn that real bats and robins are sometimes mortal enemies. Now scientists have found the first evidence of stunts that would make comic book illustrators proud: A species of bat pursues and sinks its teeth into unsuspecting birds in midair.

Many tropical bats catch birds perching in trees. But proving aerial combat was harder; after all, the greater noctule bat, *Nyctalus lasiopterus*, hunts at night, hundreds of meters above the mountainous forests of northern Spain. Researchers led by Carlos Ibanez of Spain's Estación Biológica de Doñana in Seville assembled their evidence from an ongoing study of bat fecal pellets.

The team found bird feathers in a substantial number of their 14,000 samples, as much as 70% during peak autumn migration. Because the bats hunt by night and the birds only roost by day, the capture must happen midflight, they argue in the 7 August issue of the *Proceedings of the National Academy of Sciences*. Furthermore, the greater noctule bat's 40-centimeter-plus wingspan and low-frequency sonar are well suited for hot pursuit in the wide open sky but not for finding birds in crowded tree canopies.

"This is as good a smoking gun as you get," says neuroscientist James Simmons, an echolocation expert at Brown University in Providence, Rhode Island. "Next to actually videotaping it, that's about the best they can do."

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