

This piecemeal approach, however, has sown a good deal of confusion and backbiting. A few Afghan officials complain that German money for survey work at Bagh-e-Babur was funneled to the Aga Khan Trust rather than to their government. UNESCO officials complain that some NGOs refuse to coordinate their efforts, whereas NGO representatives accuse UNESCO of being too slow and bureaucratic. "Coordination is a problem; everyone is trying to guard their own projects," sighs A. W. Najimi, a consultant with the Aga Khan Trust. "And everyone is trying to attract donors."

Meanwhile, Afghan officials are trying to put their own house in order. In August, the government folded the Institute of Archaeol-

ogy, which had been part of the moribund Academy of Sciences, into the Ministry of Culture and Information. "It's a bad idea," says Feroozi, who worries that the ministry won't understand the need for research. But he hopes the move will pave the way for a budget that will allow him to protect important sites—and eventually to dig again.

That eagerness is palpable. "I'm amazed by their desire to work and to learn under such difficult circumstances," says CNRS's Lyonnet, who this spring helped reorganize the chaotic collection of pottery shards in the basement of the National Museum. That desire extends to a new generation. Assmatullah Osmani, an archaeology professor at Kabul University, estimates that one in 10 of the 500

students who have just begun their studies in the arts and sciences departments are interested in pursuing history and archaeology.

Some got their first taste of practical experience this summer in Bagh-e-Babur. Such experience is critical for a country where an entire generation was denied education and where textbooks and other educational equipment are scarce. "In this field, you have to show how to do things anyway, not teach from books," says Franke-Vogt, who worked with 30 Afghan students and researchers. "And we are developing a very good collaboration." She returned last month to Kabul to continue the dig. That modest start is the first step to placing Afghanistan back in the center of the Central Asian puzzle. —ANDREW LAWLER

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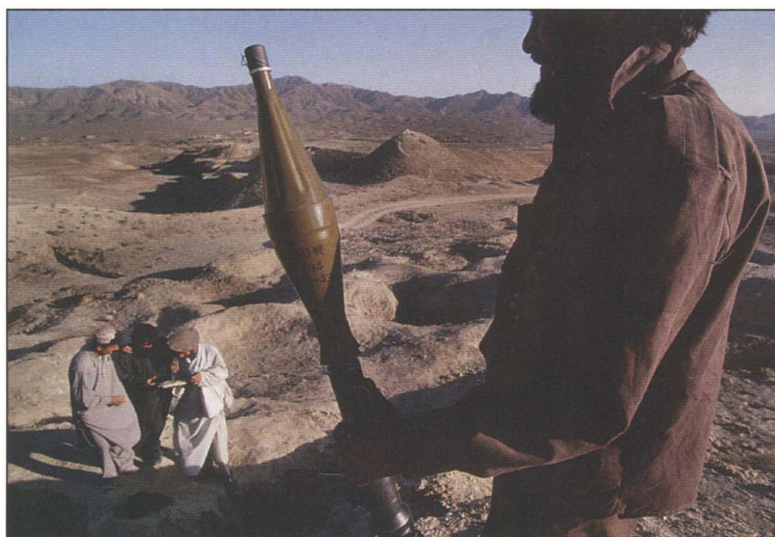
To Dig or Not to Dig?

Archaeologists and cultural heritage experts are struggling with how and when to reopen excavations amid security and storage concerns

KABUL—In the late 1970s, Afghan archaeologist Zema-ryalai Tarzi believed that he had pinpointed the site of a huge, long-buried Buddha in the famous Bamiyan Valley. But in 1978, before he could start digging, Soviet tanks rolled into Afghanistan, and a year later Tarzi was smuggled out of occupied Kabul in the trunk of a car. The defeat of the Taliban last year was his dream come true. Last month Tarzi, now a professor at the University of Strasbourg, France, was back searching again in this mountainous area north of Kabul.

The dig was cut short by local politics—Bamiyan's military commander ordered Tarzi to halt work after only 3 days. Many cultural heritage experts breathed a sigh of relief. They feared that the planned excavation was too risky and ambitious. But Tarzi says that Bamiyan's government has invited him to return next summer, and he won't be alone. Foreign archaeologists are plowing ahead with dig plans for next year: Tarzi and maybe a Japanese team at Bamiyan, an Italian team at Jam in the central mountains, a German team at Kabul's Bagh-e-Babur, and possibly French teams in the north and west.

Denied access for 2 decades, archaeologists are understandably excited about returning. But many international experts worry about the rush. They argue that it is



Under fire. A guard watches over this ancient Buddhist site—30 square kilometers in extent—in eastern Afghanistan, only discovered because of looters.

much too early to start excavating at important sites like Bamiyan in a country that remains politically unstable, strewn with mines, and woefully lacking in storage facilities. "It's madness," says Nancy Dupree, a longtime expert on Afghanistan's cultural heritage who lives in neighboring Pakistan. "Once you dig, people will loot. After excavating for 3 months of the year, you go away, and you leave it laid bare." Paul Bernard and Bertille Lyonnet, archaeologists with France's CNRS research agency based in Paris, worry that digging is a distraction from more pressing tasks, such as restoring the museum and educating researchers. Adds an irritated Michael Petzet, president of the Paris-based International Council on

Monuments and Sites: "Everything underground should be left underground. Let's preserve what's left rather than dig up anything new."

Tarzi responds that if professionals don't dig first, the looters will. "It's important to anticipate and get there before the looters,"

he says. And although many researchers question the wisdom of launching major excavations, most concede that going ahead with a small number of carefully chosen professional digs makes sense. At Jam, for instance, extensive looting is well under way in an area never touched by archaeologists (see p. 1201). Well-known sites such as Ai Khanum in the north—a Greco-Bactrian metropolis—already are devastated by plundering. And a series of stunning new finds from Afghanistan's long Buddhist era have recently come to light as a result of looting

(see sidebar, p. 1198). In the Kabul region, Dupree acknowledges that salvage work is desperately needed where new construction threatens many important sites.

Such excavations—if done thoughtfully—could begin the vital work of building trust with local villagers, through the hiring of workers and guards providing much-needed employment, and by restoring a sense of common heritage. In the past, notes Giovanni Verardi, an archaeologist at the University of Rome, there was never large-scale looting here. In this light, "the assistance of foreign missions likely would be useful."

Provincial governors and officials at the Ministry of Information and Culture,

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which is in charge of authorizing digs, are eager for the return of foreign researchers. "Afghan authorities would like to go back to the prewar situation as soon as possible, for political and ideological reasons that are very understandable," says Verardi. According to United Nations Educational, Scientific, and Cultural Organization (UNESCO) official Jim Williams in Kabul, Information and Culture Minister Sayed Raheen Makhdoom wants to use the foreign ef-

forts to discourage illegal excavations and provide an antidote to the nation's massive loss of cultural heritage.

Regional leaders also are encouraging. Powerful Herat chief Ismael Khan urged a UNESCO delegation in August to help stabilize the famous 15th century Musalla complex, considered the height of Islamic architecture. Mohammad Shoaib Waba, deputy governor of Kandahar, and Haji Hassadullah Khalid, governor of Ghazni, told *Science* they would welcome back for-

eign archaeologists. Both provinces are rich in ancient sites.

But the decision to dig or not to dig is a luxury affordable only to foreigners. Although Afghan archaeologists doubtless will be invited to participate in others' work, they won't be starting their own digs. Institute of Archaeology chief A. Wesey Feroozi says he hopes that after 3 years or so, he can restart excavations. Until then, "there's just not the money."

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Leaning Tower Poses a Technical And Political Challenge

Saving a 12th century Islamic tower in central Afghanistan from floods, looters, and roads is no simple task

JAM—Standing at the base of this strange tower, which rises like some ancient Islamic rocket from a remote valley in central Afghanistan, an angry knot of men argue in three languages over its fate. Unknown to the West until the 1950s, the Minaret of Jam has miraculously survived earthquakes, Genghis Khan, and a flood this spring that nearly toppled the intricately decorated 12th century structure.

Keeping it from collapsing, however, is not easy in a country plagued for 2 decades by poverty, war, and chaos. Crowding together in the relentless August sun, local villagers and aid workers insist that they need roads to bring food and medicines into this impoverished region. But visiting officials from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the Kabul government insist that these roads—which would likely pass close to the minaret in the narrow valley—could easily damage it. They also privately fear that road building will accelerate looting of the area by providing looters access to mechanized tools. After long haggling, a temporary compromise is struck: All roadwork must cease within 1 kilometer of the minaret until a more detailed plan can be worked out.

The complicated negotiations during

the UNESCO mission are a microcosm of the wider struggle in Afghanistan to honor and rescue its cultural heritage while reviving the economy—and to resolve differences without resorting to the ubiquitous Kalashnikov assault rifles. "Human relations are very delicate in Afghanistan," explains Andrea Bruno, an Italian engineer and UNESCO consultant who has long experience at Jam.

Just the fact that there are negotiations is a sign of progress here. When Bruno visited in 1999, mujahideen and Taliban forces faced each other across the narrow Hari River, which divides the valley. Leaders from the

two sides halted their fighting long enough to share tea with him for 45 minutes, but there was no negotiating. "After tea, they went back to fighting," he recalls. Bruno was there because erosion from the Jam River, which feeds into the Hari, was threatening the minaret, which stands at their confluence. Built late in the 12th century, the minaret soars 65 meters above the valley—taller than NASA's space shuttle. The tower features elaborate lacelike brickwork that characterizes architecture from the Islamic Ghoriid empire, which was centered here and reached as far as Delhi. Elaborate Kufic script encircles the tower in aquamarine.

The minaret came to the attention of scholars only in 1957, when a French and an Afghan researcher examined the structure. "The sight of this giant decorated tower is just magical," wrote Andre Maricq, the French archaeologist. Its purpose is unknown, but suggestions include a ceremonial gateway to the Ghoriid homeland, a victory tower, and part of a mosque long vanished. Or it could mark the site of the legendary city of Firuzkoh, the Ghoriid capital, which was destroyed by the Mongols and has never been located. But all remains speculation, as no archaeologist has dug near the minaret.

The erosion and the pronounced lean of the tower alarmed Bruno and UNESCO officials. Once the fighting eased in 2000, UNESCO asked the nonprofit Society

High point. The Minaret of Jam marks the pinnacle of Ghoriid architecture.

