# Pakistan's Dr. Doom

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Thanks to the rogue scientist A.Q. Khan, Iran's nuclear program threatens to ignite another Middle East war.

By Douglas Frantz and Catherine Collins
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Not long ago, a respected and sober-minded expert on nuclear weapons -- a former government official now employed by a prestigious Washington think tank -- sat in his corner office and reflected for us on the nightmare brought to life by Abdul Qadeer Khan, the Pakistani nuclear scientist.

"The best thing would have been to take Khan into an alley somewhere and put a bullet in his head," said the expert, who not surprisingly insisted that his name not be attached to such an outrageous suggestion.

Although we would not advocate assassination, it is certainly true that the world is a far more dangerous place because of the nuclear Wal-Mart that Khan established, and that the worst of his actions have yet to play out. Khan's fingerprints are all over the world's most dangerous nuclear threats, from the potentially unstable atomic arsenal in his chaotic home country to the prospect of another reckless Middle Eastern war ignited by Iran's nuclear ambitions.

Documentary AQKhan

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A European-trained metallurgist (who had fled to Pakistan from India as a boy), Khan became a national hero in the 1990s when he helped Pakistan build its first nuclear weapon. Today, at 71, he remains a revered figure in many quarters despite having admitted that he sold the country's prized nuclear secrets to Iran, Libya and North Korea.

In recent weeks, international attention has been focused on the political crisis in Pakistan and whether the military there could lose control of the nukes that Khan helped develop -- estimated at between 50 and 120 devices -- if the political situation were to spiral out of control or if radical Islamists were to take over.

But we believe the bigger threat today comes from Iran, where the country's leaders are forging defiantly ahead toward the bomb -- even as the Bush administration seems equally relentless in its determination to stop them. This is a recipe for a global confrontation that could make the Iraq war seem tame by comparison, and it has gotten to this point thanks to A.Q. Khan.

The most immediate threat is that Iran's scientists will soon complete their mastery of the uranium enrichment cycle, enabling them to produce fissile material that could fuel a civilian reactor (as they claim is their intention) or, in higher concentration, power a bomb. A Nov. 15 report by the International Atomic Energy Agency verified that 3,000 centrifuges are online at Iran's Natanz underground enrichment plant, and that Iran is in the final stages before the production of enriched uranium. While IAEA officials suggest privately that technical hurdles remain, the fact is that Iran is on the verge of enriching uranium on an industrial scale.

Iran could not have gotten this far without critical help from Khan. Beginning in 1987, the ring he led provided Iran with plans and prototypes for centrifuges, the tall, cylindrical machines that spin at twice the speed of sound to enrich uranium. Frankly, it is surprising that it took Iran this long to begin enrichment -- Khan did it far faster in Pakistan, where he first used the designs he stole from a Dutch research center in 1975, when he was employed there.

Nonetheless, Iran is on the cusp now.

Even more troubling, and less noticed by the media, was Iran's admission to the IAEA in November that it had made substantial progress in testing an advanced type of centrifuge, known as the P-2. Iran's enrichment plant now uses P-1 centrifuges, but investigators have learned that the P-2, like its predecessor, the P-1, came to Iran directly from Khan. This machine would cut in half the time it takes to enrich uranium, moving up a showdown with the United States and its allies. Estimates on when Iran might be capable of developing a nuclear weapon have ranged from two to 10 years.

Iran, of course, did not simply volunteer to the IAEA that it was working on the P-2; it's never quite that simple. The

IAEA's dealings with Tehran are replete with examples, ever since Iran's secret nuclear program was exposed by an exile group in 2002, of officials denying the existence of one program after another, only to acknowledge them when confronted by evidence to the contrary. The IAEA has credited Iran with cooperating on some key issues, but viewed in context, the repeated evasions undermine Iran's credibility on virtually everything it has said about nuclear issues, including whether there is a military side to its program.

The history of the P-2 is instructive. In October 2003, Iran grudgingly turned over to the IAEA a document that supposedly cataloged all of its previously clandestine nuclear activities dating back to 1986. The report acknowledged assistance from unnamed foreigners, including help with the P-1 centrifuge, but omitted any mention of the P-2.

Then, in December 2003, Col. Moammar Kadafi surprised the world by acknowledging that Libya had been secretly pursuing a nuclear weapon with Khan's help. Kadafi abandoned his program and opened Libya's doors to IAEA inspectors. When they examined sites in Tripoli, the Libyan capital, the inspectors found equipment that matched much of what they had been seeing in Iran. More alarmingly, they discovered technology from Khan that they had not yet seen in Iran, including P-2 centrifuges and detailed designs for a Chinese nuclear warhead.

IAEA inspectors were already suspicious that Khan and Pakistan had been Tehran's foreign suppliers. Comparing the Libyan inventory with what they had seen in Iran, it was clear that the links were stronger than imagined. The question was whether Khan had sold more to Libya than he had to Iran -- or whether the Iranians were holding back?

Olli Heinonen, the chief IAEA inspector for Iran and Libya, dispatched one of his experts to Tehran to confront the Iranians over the apparent omission of the P-2. Faced with the evidence from Libya, the Iranians admitted buying P-2 drawings in 1994 from what they coyly described as "foreign sources." Unfortunately, they said, the records of the transaction were missing and the official who arranged the deal was dead.

The existence of the P-2 designs troubled Heinonen and others at the IAEA, and they pressed the Iranians for months over whether they had translated them into actual machines. Eventually Iran conceded that work had been done on the P-2 by a private contractor, but insisted that the project had been abandoned. U.S. intelligence and skeptics at the IAEA doubted the claim, speculating instead that the P-2 could be the nucleus of a parallel enrichment project still hidden from the IAEA.

Fast forward to April 2006. That's when Iranian President Mahmoud Ahmadinejad acknowledged to the media that Iranian scientists were indeed working on the P-2, which he boasted would quadruple Iran's enrichment capability. The IAEA had to wait until Nov. 7, 2007, for formal acknowledgment from Iran of the work. By then, Iran was running mechanical tests on the P-2s, a step short of introducing uranium hexafluoride -- the final stage before the production of enriched uranium.

The story of the P-2s is a case study in how Iran has managed to make substantial gains in enrichment technology despite international scrutiny and pressure. In what is now a familiar pattern, the progress occurred entirely in secret and in defiance of the IAEA. And it reflects the early assistance provided to Iran by Khan.

Today, the IAEA is still awaiting answers on other critical aspects of Iran's nuclear efforts. Traces of weapons-grade uranium at one of its plants remain unexplained. So does the revelation that Iran has experimented with nuclear materials that the IAEA says have no civilian application. Even before Khan sent over the P-2 designs, he and his associates provided Iran with a 15-page document describing how to cast uranium metal into hemispheres for nuclear devices. That too is something the Iranians assert they have never pursued.

Finally, there is the matter of those Chinese designs for building nuclear warheads that were found in Libya in 2003. Khan passed them to Kadafi sometime in 2000 or early 2001. Did he also provide them to his customers in Tehran? The answer would go a long way in proving whether Iran will soon be enriching uranium for a civilian reactor or a nuclear weapon.

Khan is finishing his fourth year under house arrest at his estate in Islamabad, the Pakistani capital. The Bush administration has never pressed to interrogate him. Clearly the world would be safer if Khan had somehow been stopped before he turned into the world's single worst nuclear proliferator. The challenge for the next president of the United States will be to undo the damage Khan did and enforce tough, uniform prohibitions on the spread of nuclear weapons in hopes that a new Khan does not emerge.

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