

Expensive Tastes

How the military has spent years gold-plating itself out of a cheap and effective unmanned aircraft—that could save lives

BY ADAM PIORE

IN THE MIDST OF THE PERSIAN GULF WAR, a group of bedraggled Iraqi soldiers were shown on CNN, desperately waving what appeared to be white shirts at a passing U.S. airplane. But the plane seemed unimpressed by their attempts at surrender, continuing placidly on its way. That was to be expected: There was no pilot on board.

The Iraqis were attempting to surrender to what's known as an "unmanned aerial vehicle" (UAV), a pilotless "drone" aircraft that some say is the military surveillance tool of the future. This particular drone, called a "Pioneer," was essentially a souped-up remote control airplane with a camera. Its mission during the Gulf War was to cruise the desert looking for signs of the enemy. Though limited in both quantity and quality, Pioneers performed a valuable service during the war—beaming back images of Iraqi troop movements, and transmitting targeting information to American gunners on offshore battleships.

But the United States' relatively successful deployment of UAVs in the war was one of the few bright spots in the American military's otherwise troubled history with the aircraft. The Pioneers used in the Gulf were Israeli-made. They were purchased in 1985 as a "temporary" solution while the U.S. military developed an American version. But despite having spent more than \$2 billion since 1979, the U.S. has yet to produce and fully deploy its own UAV system. Meanwhile our Israeli-made Pioneers have become antiquated, which hampered their performance in the Gulf. To top it all off, by allowing spare-parts contractors to charge grossly inflated prices, as well as wasting millions trying to adapt the land-based Pioneers for use at sea, the U.S. has managed to turn an originally inexpensive plane

into yet another boondoggle.

UAVs ought to be a commander's dream. They provide a wealth of essential intelligence, while taking human pilots and on-the-ground observers out of the line of fire. And the technology to build simple drone planes has been around for years. Why can't the U.S. military get it's act together? The fault lies not with the engineers, but with the perverse culture of their bosses. Leaders at the Pentagon tend to favor big-ticket items because these help justify large budgets—which can then be padded with pay raises and promotions. And however useful they may be in combat, as weapons in the budget battle, drones have a major drawback: they are cheap to produce. So the top brass has loaded on a host of expensive, and increasingly complicated additional requirements. "They want this thing to do everything except shave you and pat you on the fanny in the morning," said Piers Wood, a retired Army Lieutenant Colonel, now chief of staff at the Center for Defense Information. The result: the models developed often literally can't fly straight. "We've essentially gold-plated ourselves out of a good UAV," complains Wood. "And don't kid yourself, we really need one."

Turf Wars

The potential of unmanned aircraft was first demonstrated in 1982, when they were used by Israel to win a stunning victory over Syria in the Bekka Valley. The Israelis sent a front-line force of propeller-driven drones over the Syrians. The unmanned planes, equipped with cameras, drew radar-guided missile fire from the Syrians, allowing Israelis to identify their position and launch radar-seeking missiles. Meanwhile, the planes sent back real-time video, allowing the Israelis to monitor the activities of Syrian soldiers far below. Only one Israeli plane was lost in the fight. Fifty-four Syrian aircraft and 19 missile batteries were

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destroyed. The Israeli drone project, begun only a year before, was declared a smash success.

At the time, the U.S. Army already had its own experimental UAV program, called "Aquila." However, a very different scenario was unfolding at project headquarters in Ft. Sill, Oklahoma. While the Israeli drones used over the Bekka Valley had been developed in a year and cost about \$50,000 each, the Aquila's initial estimated cost was \$560,000—10 times as high. And the Aquila's price eventually grew to over \$3 million a plane.

The reason for the difference: In contrast to the simple model developed by the Israelis, Army officials wanted the Aquila to have autopilot capabilities, a jam-resistant datalink and a laser to designate missile targets. They wanted the plane to be able to survive Soviet air defenses and stay airborne for up to 3 hours, flying between 54 and 108 miles per hour. As if that wasn't complicated enough, in the middle of the project, they decided they wanted to add a forward-looking infrared sensor to provide images at night and during adverse weather conditions.

Not surprisingly, the program ran aground. Engineers couldn't figure out how to get the complicated requirements to work together. The jam-resistant datalink, for instance, degraded the quality of the video sent back by the plane. The development phase was supposed to last about three-and-half years. Instead, it dragged on for more than eight. Finally, in 1987, after \$1 billion had been sunk in the project, Aquila was scrapped. The planes had successfully completed their mission requirements on only 7 of 105 test flights that year. It could have been worse: The projected cost of the project, had it been continued, had grown from \$563 million for 780 air vehicles to \$2.1 billion for only 376 planes.

Why didn't the army just remove some of the requirements, rather than scrapping the whole thing? "The Army in some cases has been its own worst enemy," says one Army Combat Development officer familiar with the Aquila. "The UAV comes along and then every little proponent wants to have its own piece of the UAV to do a certain mission and so you start adding all these gizmos and gadgets—pretty soon you've lost the focus...You become really involved in trying to get a particular system to meet your particular requirements and you become very insistent on it."

Gold-Plated Washers

While the Army was working on Aquila, the Navy decided it also wanted a UAV.

The Navy's experience in its own skirmish with Syria in 1983 had provided a potent argument for the

technology. Manned airplanes from two U.S. carriers attacked the same installation that the Israeli UAVs had flown against so successfully the year before. Without the advantage of drones, the U.S. was unable to replicate Israel's success. This time two piloted American planes were shot down. One pilot was killed and another was captured by Syrian forces.

In 1985, the U.S. Navy and Marines began to look into purchasing planes from Israel for "temporary" use while the U.S. developed its own drone aircraft. The Pioneers purchased were the successors to the models used by Israel in the Bekka Valley.

Eager to get the planes in production, the Navy, unlike the Army, ignored the traditional U.S. development and testing phase. They brought nine Pioneer systems, each with five air vehicles, for about \$877 million—a relatively paltry sum when compared to the \$1 billion Aquila debacle. But the costs soon grew.

It soon became apparent that Pioneers were ill-suited for use at sea. The main problem was trying to get them back onto the aircraft carriers. That meant the Navy had to shell out an additional \$50 million for research and development to get the systems up to speed. "It's a pretty sad story," says Louis J. Rodrigues, a GAO official in charge of defense acquisition issues. "The idea was to catch [the drones] in a net. But the net broke. So you strengthened the net and that bent the propeller. You change the propeller and that busts the net again—we ended up having to redesign the whole thing."

Despite the problems with the Israeli drones it became clear that, given the U.S. military's failure to develop an alternative, for the foreseeable future it would have to rely on Pioneers. That meant they needed spare parts, which the Pentagon hadn't thought to buy with the Pioneer because the system was supposed to be temporary.

Instead of soliciting competitive bids for the contract to provide the parts, the Pentagon handed the job to Pioneer's U.S. contractors—the Maryland-based Aircraft Armament Incorporated (AAI) and the Israeli manufacturers of Pioneer, Israeli Aircraft Industries (IAI). The two companies formed a joint venture to provide spare parts and service and named the company Pioneer UAV Incorporated (PUI).

According to whistleblowers and congressional investigators, PUI soon began overcharging the Pentagon for parts. One staffer for a House subcommittee investigating the claims purchased a bolt at a hardware store for 61 cents. PUI's cost? \$31.56. Another item, a washer, was available for \$10.50. PUI's cost: \$12746. A spokesman for PUI claims the reason for its

higher price is that the company must factor in the cost of testing, military-mandated paperwork, and “packaging costs.” Even if true, that’s hardly a comforting explanation.

Congressional scrutiny cooled for a time after Republicans swept into power and eliminated the House Intelligence subcommittee that had been looking into the allegations. However, recently the Project for Government Oversight watchdog group succeeded in drafting Rep. Peter DeFazio (D-Ore.) to look into the matter. One congressional staffer said other lawmakers have been reluctant to join DeFazio, in part because they fear IAI, which is owned by the Israeli government and is backed by the clout of the powerful American Israel Political Affairs Committee (AIPAC).

Still, DeFazio’s queries have had an impact. The Pentagon’s comptroller froze \$15 million in funds (though after lobbying by other Pentagon officials, that money was recently unfrozen). And the DOD Inspector General’s Office initiated an audit on March 24. The results are pending.

Notwithstanding the system’s ballooning costs, the Pentagon has had some success with the Pioneer. In addition to their use in the Gulf, Pioneers have been deployed in Somalia, Haiti, and Bosnia. But much of the Pioneer’s technology is now antiquated and that limits its utility. In the Gulf, for instance, it had trouble keeping up with mechanized forces and had problems flying in bad weather.

As a result, Pentagon officials have once again resumed the search for an alternative. And once again, Pentagon culture has stymied their efforts.

The 1,600 Pound Flying Bomb

In 1987 after Aquila’s demise, Congress decided to consolidate funding for UAVs into a single agency, and established the Joint Tactical UAV Program Office.

One of the office’s first actions was to gear up for a replacement system for the Aquila. But a request for bids in 1989 drew only two interested companies, McDonnell Douglas and IAI. Each company was awarded a contract to deliver two prototype systems for evaluation and tests. But neither model of airplane

could get off the ground. According to Rodrigues, as soon as IAI fielded a model that could fly, they were awarded the contract. IAI then formed a joint venture with the San Diego company TRW.

After five years of development and testing of IAI/TRW’s newest drone—ultimately named “Hunter”—the DOD decided it was ready to purchase some of the planes for use in the field. They spent \$171 million to buy seven Hunter systems with eight air vehicles a piece.

The GAO strenuously objected. It noted that Hunter’s performance during tests was unreliable. It also disputed the Pentagon’s contention that it needed the new systems for further testing: “According to test officials, only two systems are required, and they are already available. ...DOD will prematurely commit to production of an unproven system.”

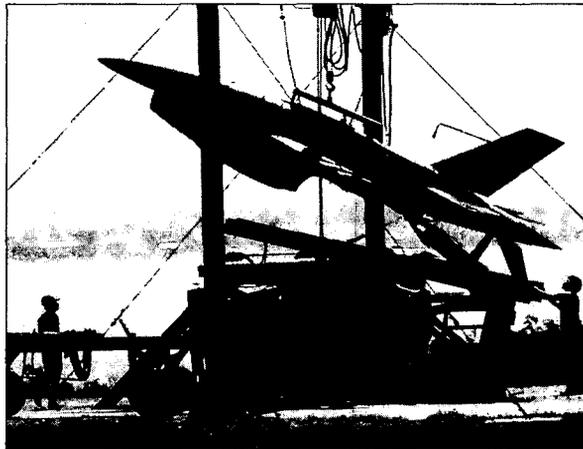
After the acquisition of the planes, the system

underwent at least 180 major hardware and software design changes. And like the Aquila before it, the cost of Hunter quickly soared. When it began in 1988, the program was estimated to cost about \$1.2 billion for 50 systems with 400 air vehicles. Eventually that estimate would grow to \$2.1 billion for 52 systems.

But that’s not all. The Hunter was so complicated, its operators

couldn’t even fly it straight. Between 1991 and 1996, the Hunter crashed at least 19 times, mostly in Southeastern Arizona where the program was being tested. In 1993, because of a human programming error, a Hunter veered off course and flew 750 miles before running out of gas and landing in the Pacific Ocean. The crash almost caused an international incident because some Mexican officials believed the plane was sent to spy on them. Another plane crashed two miles south of a college campus near the Mexican border.

Meanwhile, some of the military’s brass were having second thoughts about taking the system into battle. In particular, some Navy commanders weren’t too keen on the idea of allowing a 1,600-pound unmanned airplane with a record of crashes to land on a carrier flight deck crowded with live ammunition, troops, and other airplanes.



AP/WIDE WORLD PHOTOS

In April 1995—six years after the Hunter program's start—the three Navy fleet commanders informed top Navy officials they were opposed to deploying the system. They also noted that the Hunter's range of 100 miles was insufficient for the Pacific Ocean. A few months later, the Army also decided that the system was too expensive and too bulky to transport.

In February 1996, the program was canceled. The cost to taxpayers: \$667 million.

Pentagon officials claim the project was cancelled in part because they wanted to pursue cheaper alternatives. The success of a long-range system called the "Predator" eliminated the need for some of Hunter's functions. With modified requirements, the Hunter was too big, did too much, and was too expensive, they said. But a Pentagon Inspector General report ordered after the program's cancellation confirmed that the real reason had not been the success of Predator, but the failure of Hunter. The report "partially or fully" substantiated charges that the system "did not conform to contract requirements, operator safety was at risk, reliability was inadequate, and the system was never subjected to operational testing."

Officials at IAI say they have fixed the Hunter's problems. Two of the Hunter systems have been taken out of storage and are again being used on an experimental basis, including in Bosnia. But five others remain in storage.

Where Are We Now?

Since the Hunter's demise, there have been signs of progress. Even though some of the Hunter's successors haven't proven problematic, the military is keep-

ing a closer eye on them than in the past.

For instance, after the smaller and less complex "Outrider" system made a disappointing maiden flight in March—four months behind schedule because of a series of mishaps—Pentagon officials gave the program 60 days to prove itself or join the graveyard of failed UAV projects. Its cost so far has been about \$82.9 million.

Another UAV in development, the stealthy "DarkStar" has also had difficulties. The DarkStar is designed to penetrate and operate in the presence of high-threat air defense systems. Unlike Outrider, it is intended to fly at altitudes greater than 45,000 feet and is being designed to travel distances of up to 500 nautical miles. The DarkStar crashed on its second flight test last year. But Pentagon officials say they understand the cause of the problem and flight testing is slated to resume this September.

And, with the aforementioned Predator, the military seems finally to have hit the mark. Like DarkStar, Predator is also a long-range UAV with the ability to fly 500 nautical miles. It too can hover over a target for more than 20 hours. The Pentagon has now purchased 13 Predator systems with 80 air vehicles for \$368 million. Despite some questions about its ability to fly in bad weather, the system has received rave reviews from many military experts and reportedly performed well in Bosnia. In short, there is ground for cautious optimism.

But while the success of Predator is good news, it was a long time coming. The military would do well to take note of the obvious lesson: For far too long, spending money took precedence over developing a viable system that could save lives. ●

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Mr. Smooth Comes to Washington

Vernon Jordan is the ultimate Washington insider—rich, powerful, and unaccountable

BY MICHELLE COTTLE

IN THE SECOND CENTURY, THE PTOLEMAIC view of the universe put the Earth at the center of the action: Ladies and gentlemen of learning believed that the sun, moon, and stars traced endless circles around their steadfast home planet. This theory held sway until 1543, when Polish astronomer Nicholas Copernicus rocked the educated world by positing that the sun was in fact the center of the universe. Now, with the 21st century fast approaching, it has at last become clear that the true hub of it all is...Vernon Jordan.

OK, so maybe Jordan's not the epicenter of the universe, but as far as U.S. business and political developments go, this civil rights leader cum Washington powerbroker possesses an unsettling omnipresent quality. Like Forrest Gump, he is constantly popping up at the center of news events, ranging from the 1960s civil rights movement to the 1993 passage of NAFTA. Who hooked CEO Lou Gerstner up with IBM? Vernon Jordan. Who approached Colin Powell in '94 about replacing Warren Christopher as Secretary of State? Vernon Jordan. Who was on the short list in '89 to succeed Pete Rozelle as NFL commissioner? Vernon Jordan. Who gave World Bank President James Wolfensohn a leg up in attaining his current post? You guessed it.

Today, as a senior partner in Washington's third biggest lobbying firm (in terms of revenues, that is), an unofficial adviser and golfing partner of the President of the United States, and a director on the boards of a dozen domestic and foreign mega-corporations, Vernon Eulion Jordan Jr. wields more power and influence than a passel of politicians. Moreover,

in a town run on connections and relationships, this 61-year-old Atlanta native seems to know everyone between the ages of five and 95—and he's friends with almost all of them. Of course, it doesn't hurt Jordan's cachet that he and his wife, Ann, are intimates of Bill and Hillary, spending many a vacation and holiday together. As one prominent Washington attorney remarked to *The New York Times* last year, Jordan "is as close to the President as anyone I know since Bobby Kennedy was so close to his brother."

Despite all this, Jordan sails along under the radar of both the media and the public. Although he consults frequently with Clinton and other administration officials on issues ranging from international trade to political appointees, Jordan's access is largely based on informal, nonofficial relationships. As such, he is not bound by the same disclosure laws as lobbyists, appointees, or elected officials. Who Jordan's clients are and what exactly he does to earn his \$500,000-plus in annual board fees and his estimated \$1 million income from his law firm, Akin, Gump, Strauss, Hauer, and Feld, is anybody's guess—and Jordan plans to keep it that way. When quizzed about his income or work, he invariably cites attorney-client privilege or ethical constraints.

In general, Jordan has little patience with people who question his business or political dealings, and whether the overlap of those relationships might pose conflicts of interest. Nor does he feel obligated to address rumblings about whether, with his seven-figure income and his summers on Martha's Vineyard, Jordan has turned his back on the civil rights cause that helped launch him into the ranks of the power