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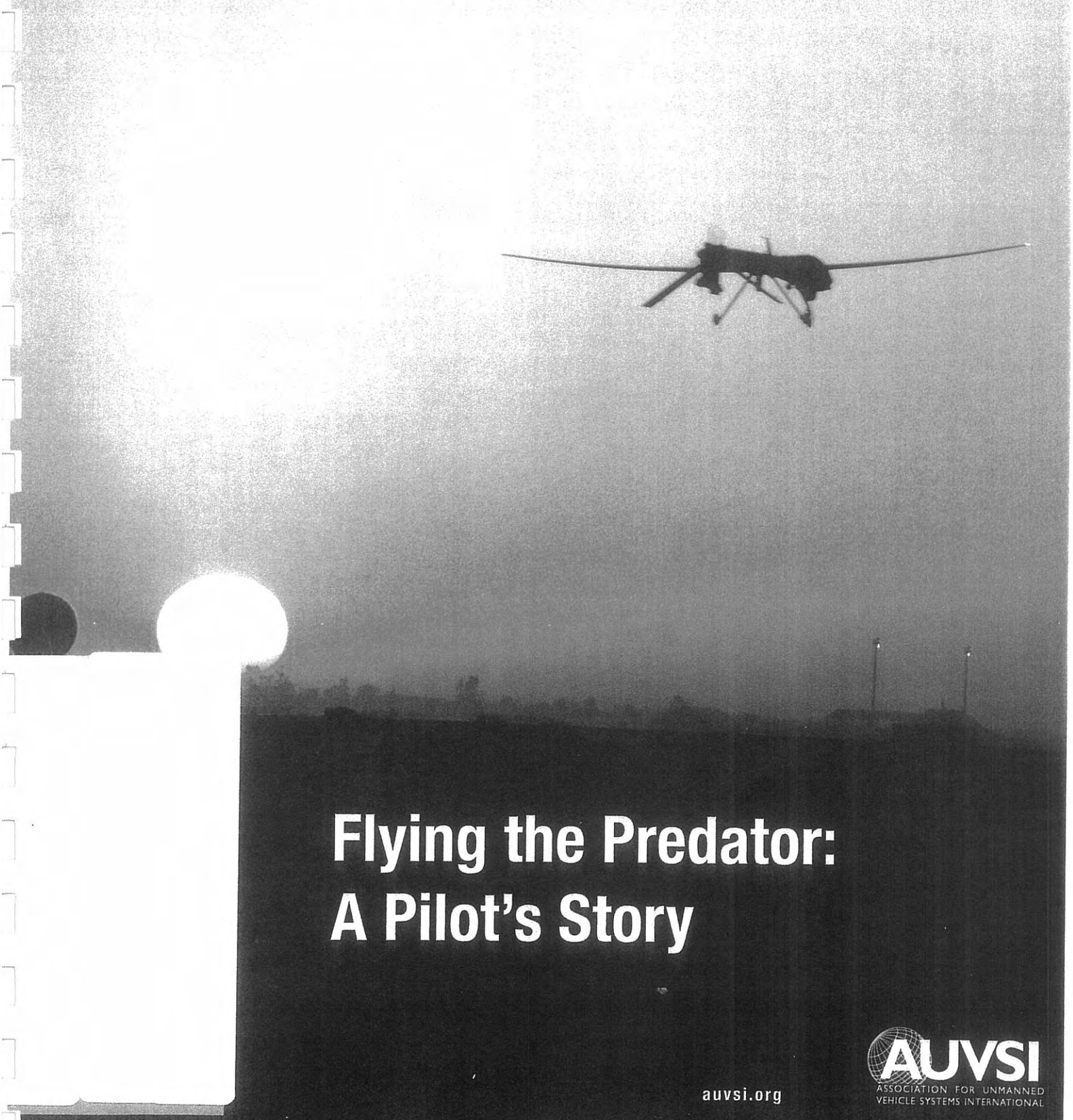

Flying the Predator: A Pilot's Story

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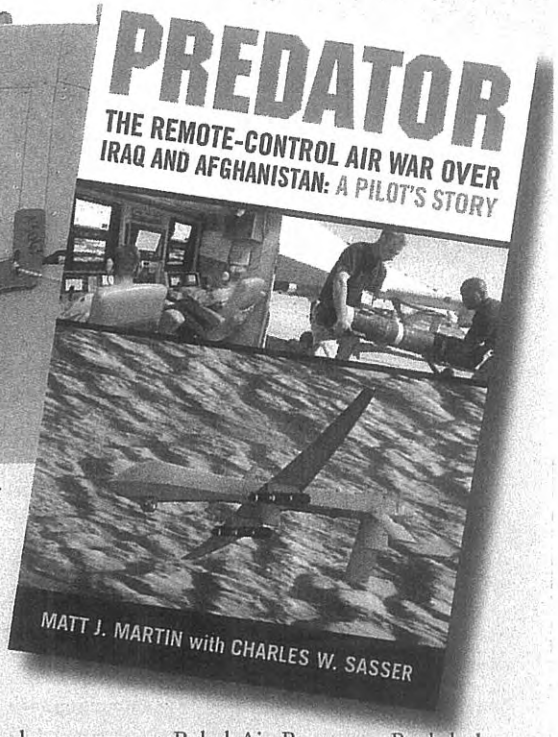
'Predator, the Remote-Control Air War Over Afghanistan: A Pilot's Story'

By David C. Walsh

In 2003, then–Capt. Matt J. Martin was a navigator on a forward-deployed RC-135 reconnaissance platform, flying out of Crete. Seeking a new challenge but too old for conventional piloting, he was accepted into the U.S. Air Force's Predator program.

Assisted by writer Charles Sasser, Martin tells the tale of his time working on Predator, focusing on human experiences versus technology. "Predator, the Remote-Control Air War Over Afghanistan: A Pilot's Story" is a series of vignettes and personal impressions, dramatic, poignant, jarring or farcical.

Lt. Col. Matt Martin with Ruby, a Predator with his wife's nickname, during his tour at Balad Air Base.



"Predator, the Remote-Control Air War Over Afghanistan: A Pilot's Story"
By Lt. Col. Matt J. Martin with Charles W. Sasser
Zenith Books, 2010, hardcover, 320 pages, ISBN 0760338965

He sketches the surreal daily existence of guiding Predator unmanned aircraft in a war zone 7,500 miles distant and then, after sweating out a shift — perhaps spent watching insurgents readying attacks on our guys — returning home with groceries.

Even so, with the asymmetric enemy growing ever more unpredictable, the panoply of detail work could be, as Martin would say, "a bastard."

That included avoiding aerial accidents with jet jockeys; activating sometimes fiddly cameras; praying data links and subsystems were properly integrated; and tolerating days of torpor, tedium and crushing exhaustion before springing into action with eye-blink speed.

Martin had to be ready for anything, and so does the reader in this nonlinear account. The voluminous dialogue has been recreated but rings true. Martin saved reams of old notes made through several years' rotation in and out of theater. The results can be as illuminating as a laser designator.

Consider this excerpt about the Battle of Fallujah in 2004, the author's most active period:

Operation Phantom kicked off under the cover of darkness in the early hours of November 8. Thunderstorms cracked and banged over the unlighted city, merging lightning strikes with the muzzle flicker of tank guns, the flash-bang of explosions, and streams of tracers from machine guns. It was mind-boggling how hard rain could fall over terrain regarded as desert most other months of the year. Unlike ... lions or wolves who hunted no matter what, Predator operations were limited by inclement weather.

Here was the perfect storm of "cold-air moisture icing on the bird's ... laminar-flow wings, lack of deicing equipment, vulnerability to strong winds and the necessity to keep the gyro-stabilized satellite dishes on the plane properly aligned." The battle, "brewing for months," started without them.

Instead, frustrated Predator teams at Balad Air Base near Baghdad monitored classified chat room discussions or watched CNN or Fox. Abu Masud Al-Zarqawi, a skilled but brutal insurgent commander who had beheaded reporter Danny Pearl, "seemed to be on everybody's mind." But the high-value target was outside the city. And while Martin was at other points close to pinpointing him and similar al Qaeda (and, in Afghanistan, Taliban) seniors, they always melted away. Martin likens such jaw-tightening disappearances to Mao Zedong's dictum that guerrillas be "fishes drifting in the sea."

Other operations were more satisfying. Often, along with his sensor operator in Nellis' ground control station, he spotted insurgents before they could plant IEDs or unleash rocket-propelled grenades at our forces. When unimpeded by clouds or sandstorms, the view afforded by Predator's autofocus, zoom-able daylight and infrared night cameras was fine. Data and video links enabled near-instant transmissions, and AGM-114 Hellfire-missile-equipped iterations and the aircraft's laser designators let pilots destroy targets themselves.

Martin coordinated close-air support fire for ground troops, artillery batteries, Black Hawk helicopters, cannon-carrying C-135s and other aircraft and ground vehicles. At other points, tasking was simply "persistent stare" with some piece of C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) coming into play.

Whatever the mission, Martin asserts that, from 10,000 feet above them, "the bad guys never knew we were there."

Editor's Note: The following is an interview with Lt. Col. Matt Martin, Air Combat Command chief of Predator/Reaper operations, conducted by David C. Walsh, a frequent contributor to Unmanned Systems. *The interview took place via telephone from an undisclosed location where Martin instructs young pilots and sensor operators on Predator. His responses are his own opinions and are not necessarily those of the U.S. Air Force.*

Q: What can you say on the topic of MQ-series intelligence sharing with other manned and unmanned vehicles: Global Hawk, helicopters, ground vehicles, etc.?

A: The focus is integration at the operational level. What we're trying to do is get all the information into the intelligence enterprise, and typically it goes to the worldwide distributed common ground stations [DCGSs] where there are all these intel analysts. And we take all forms of intelligence from all these platforms and exploit it, and [we then] provide useful products – including real-time exploitation – to ground commanders.

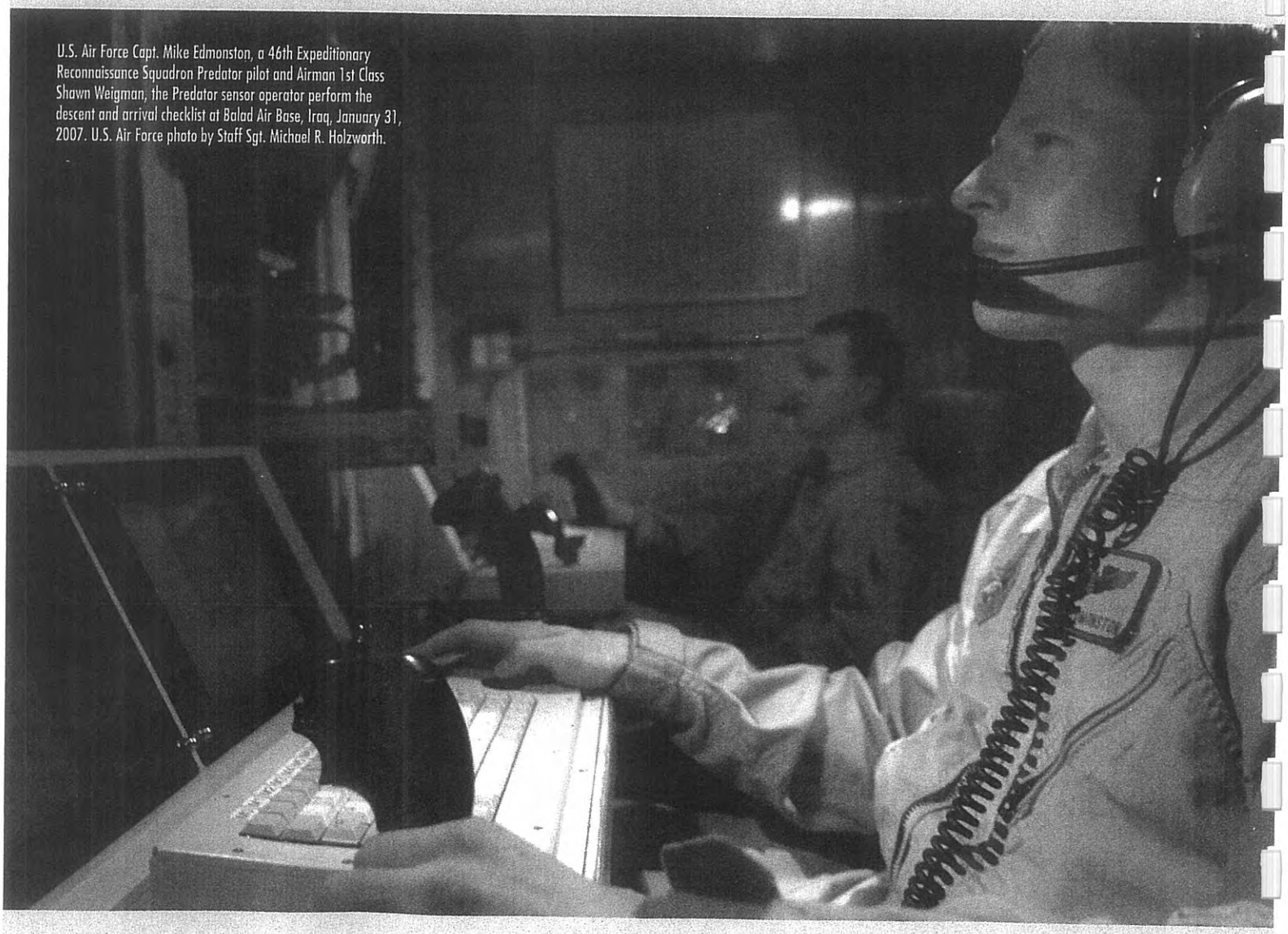
So if I'm flying a mission and there's a Global Hawk or RC-135 or other close-air support platform on station, I'm talking to them on the radio, and a lot of intel data is getting back to the DCGS.

Q: So it's regular voice comms and digital – JTRS (joint tactical radio system)?

A: Sure, all of that. They're getting the voice, video, ELINT [electronic intelligence], SIGINT [signals intelligence]. A lot of that's going into the LINK-16 [tactical data link] so I can digitally pass the target electronically to an F-16 or A-10 versus having to read the coordinates over the radio. It's all getting tied together through these different nets.

Q: The skies and airwaves are growing crowded – and lots more unmanned aircraft are planned to operate in theater. How do you finesse clogged data pipes and miscues while avoiding aerial accidents – like your near miss with an F-18?

A: When I was actively flying combat missions we had a lot of workarounds and other tools. Plus the common operating picture was stressed – sort of a shared mental model; we did it over the radio, the LINK-16 and other info flowing into and out of the cockpit. So ideally, I should have an electronic picture of all the aircraft flying around, military and commercial and civilian, in a particular piece of airspace.



U.S. Air Force Capt. Mike Edmonston, a 46th Expeditionary Reconnaissance Squadron Predator pilot and Airman 1st Class Shawn Weigman, the Predator sensor operator perform the descent and arrival checklist at Balad Air Base, Iraq, January 31, 2007. U.S. Air Force photo by Staff Sgt. Michael R. Holzworth.

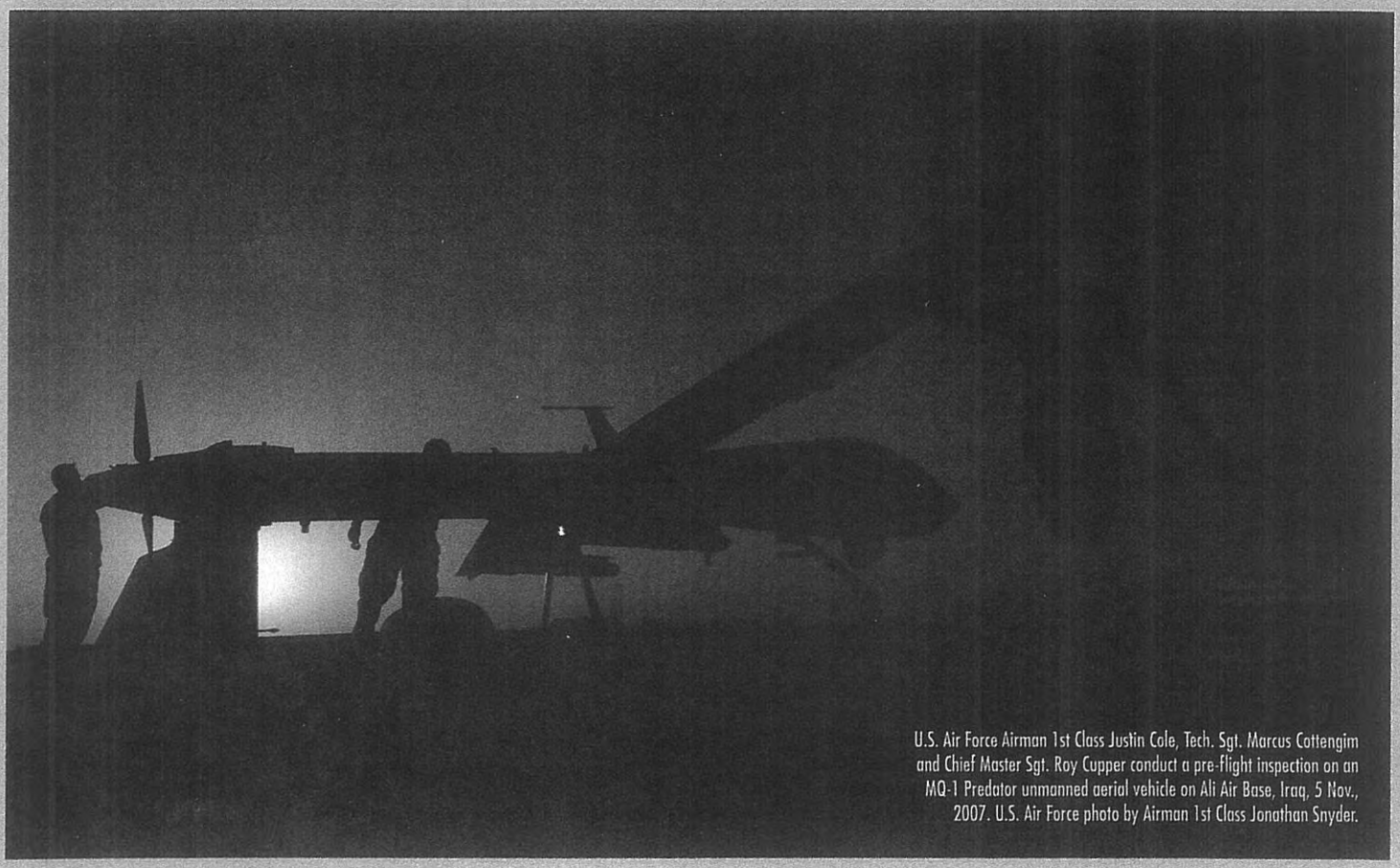
If I had that picture I could certainly avoid [accidents]. It also facilitates coordinating among military aircraft so we can pass that targeting data both ways.

Q: Will MQ-1 become a legacy aircraft?

A: We're still training guys to fly the MQ-1B. We're going to fly it another 10 years. By that time we'll have an all MQ-9 Reaper force.

Q: Is it practicable is to swarm Predators?

A: I have been in operations where we had two to three Predators and a couple each of F-16s, F-15Es, maybe a B1 and an AWACS [airborne warning and control system] – and they're all being con-



U.S. Air Force Airman 1st Class Justin Cole, Tech. Sgt. Marcus Cottengim and Chief Master Sgt. Roy Cupper conduct a pre-flight inspection on an MQ-1 Predator unmanned aerial vehicle on Ali Air Base, Iraq, 5 Nov., 2007. U.S. Air Force photo by Airman 1st Class Jonathan Snyder.

trolled by a forward air controller. … But at this point it's all still manual integration, guys talking on the radio to make that happen and using disciplined tactic so they're not stepping on each other and assuring they're properly deconflicted. Eventually we may have those kinds of things automated, but we're not there yet.

An MQ-1B Predator taxis out to the runway at Joint Base Balad, Iraq. Photo courtesy U.S. Air Force/Senior Airman Matt Coleman-Foster.

Q: We're also not there in terms of ending this war. The enemy's grown pretty skilled.

A: No question; every time we get an understanding of how they operate or arrange an ambush … they change their tactics and we have to start over. And that's why IEDs are still such a huge threat. We definitely have to stay on our toes.

Q: We know the insurgents hacking video feeds a year or so ago was a wake-up call, though there's no sign they could exploit it and the system stayed largely encrypted. Still, as the enemy wises up, how will Predator and Reaper stay out of trouble?

A: By being fully integrated into that common operating picture. So when that RC-135 or that British Nimrod or that EA6-B identifies that SAM [surface-to-air missile] or whatever, we can identify that threat instantly and avoid it.

Q: How did the surge in 2007 change strategies?

A: By moving from the counter-terror to counterinsurgency we got a lot better in direct-support missions, being able to communicate directly with that convoy commander or patrol commander, getting him all this tremendous information at his fingertips that previously wasn't available and being able to flex to whatever priorities arose versus focusing solely on manhunts.

Q: What do you see as the sort of next-gen promise of unmanned aircraft like Predator and Reaper?

A: When I flew my airplane, even when I was on station 20 hours, I had to turn around and come home when it ran out of gas, and they launched the next airplane. … We will eventually have network control systems where the airplane that's going to relieve me on station is already on target and I just push a button and grab the next airplane and continue with the tactical scenarios.

Of course we're going to continue with the small forward footprint you get by doing the remote-split operation, where we only have the launch and recovery element forward deployed and everyone flying the mission is back home. And if the airplane has the ability to land by itself versus the stick-and-rudder landing, you can reduce that footprint even further.

The global distribution of video and data remains a tremendous force multiplier. It allows us to leverage this huge intelligence enterprise to get the exact info to the ground commander that he needs at that exact time, versus having to take pictures and fly home, analyze and then go back out again. So the more [we] can integrate the real-time info the better we'll be. And that's where we're going to continue to develop.

Q: What's the near-horizon future for Predator – which has been on station since the early to mid-1990s?

A: The Air Rorce has the task of achieving 65 combat air patrols with both the MQ-1 and MQ-9; we're at about 45 now. We'll continue to grow to 65 then over that 10-year period we will build up MQ-9 and retire MQ-1. So we'll eventually go from about 30/15 MQ-1 versus MQ-9; eventually we'll have an all MQ-9 65-cap force.

Click here to try your hand at flying a virtual Reaper unmanned aircraft in this online game from the U.S. Air Force.

Download the book for PC, Apple products, Android and Blackberry by scanning this barcode with your smart phone.