

IN ESSENCE

REVIEWS OF ARTICLES FROM PERIODICALS AND SPECIALIZED JOURNALS HERE AND ABROAD

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FOREIGN POLICY & DEFENSE

Calming the IED Storm

THE SOURCE: "The Secret History of Iraq's Invisible War" by Noah Shachtman, at Wired.com, June 14, 2011.

A MAN PUNCHES A FEW BUTTONS on his cell phone. Hundreds of yards away a hidden bomb detonates, unleashing a brain-rattling blast wave and propelling scorching bits of shrapnel in every direction. For U.S. troops in Iraq and Afghanistan, this scene has played out thousands of times, but *Wired* contributing editor Noah Shachtman reports it is becoming rarer. The United States has made big steps in defusing the threat posed by improvised explosive devices (IEDs).

It's been a long and ugly journey. When the United States invaded Afghanistan in 2001, all that American troops had to protect themselves from IEDs were a few short-range radio frequency jammers. By late 2002, the Navy had developed a more sophisticated jammer called the Acorn, which blanketed a set of radio

frequencies with competing signals, preventing an IED's trigger signal from reaching its bomb. But bombers soon learned to switch frequencies.

The Army began to adapt a technology used to protect troops from artillery and mortar fire to thwart IEDs. This tool, the War-

lock Green, was able to zero in on an IED's triggering frequency and explode the bomb prematurely.

The Warlock Green was a welcome breakthrough, but before long militants found a way to defeat it. "Every time we put a countermeasure in the field—especially with the Warlock—they were able to outstrip it," a defense executive told Shachtman. By May 2004, well into the Warlock Green era, some 2,000 American troops had been wounded by IEDs in Iraq alone. "IEDs are my



An Afghan soldier inspects the devastation wrought by an improvised explosive device.

number one threat in Iraq. I want a full-court press on IEDs," the commander of U.S. forces in Afghanistan and Iraq, General John Abizaid, declared.

The defense industry obeyed. But each countermeasure had its flaws, and with all the devices in the field, some even jammed others. As of May 2005, IEDs had caused more than 7,700 American casualties. By the end of 2006, that number had roughly doubled.

The military pressed on. The Joint IED Defeat Commission was given a budget of \$3.6 billion. Then the Warlock Duke—a successor to the Warlock Green that was able to detect and jam IED signals with unprecedented specificity—was brought to the field, soon to be followed by numerous countermeasures of equal or greater sophistication. By the summer of 2007, Shachtman reports, "IEDs had become relics in broad swaths" of Iraq.

But what worked in Iraq hasn't worked in Afghanistan. "No-tech" bombs of wood and fertilizer that explode when stepped on or driven over remain the weapon of choice there. The number of IEDs is growing, though it is still smaller than what U.S. troops faced at the height of IED use in Iraq. Shachtman notes that 378 U.S. troops were injured by IEDs in Afghanistan in July 2010—a number "about 15 times higher than the casualty count from two years before." Anti-IED efforts there involve enhanced surveillance and intelligence.

Having come to regard IEDs as a permanent threat in warfare, the Pentagon is no longer set-

ting for stopgap measures. The so-called JCREW, now under development, is a highly advanced, networked jammer that will be used not just against IEDs but drones, satellite signals, and other high-tech threats. Field tests began in July.

FOREIGN POLICY & DEFENSE

Rumble Over the South China Sea

THE SOURCES: "Countering Beijing in the South China Sea" by Dana Dillon, in *Policy Review*, June–July 2011; "The South China Sea Is the Future of Conflict" by Robert D. Kaplan, in *Foreign Policy*, Sept.–Oct. 2011; "Deep Danger: Competing Claims in the South China Sea" by Marvin C. Ott, in *Current History*, Sept. 2011.

THE SOUTH CHINA SEA IS ONE of the most valuable pieces of marine real estate in the world. A third of global maritime traffic passes through its sea-lanes, and its depths contain significant stores of oil and natural gas. Six of the nine countries with coastline bordering its 1.35 million square nautical miles (China and Taiwan, as well as Malaysia, Brunei, Vietnam, the Philippines, and Indonesia) have lodged competing claims to the sea or its manifold atolls, reefs, and small islands. The stage is set for struggle.

For much of history, the South China Sea was an "obscure afterthought," writes Marvin C. Ott, a public policy scholar at the Woodrow Wilson Center. That changed in 1995, when Filipi-

no officials learned that China had built an outpost on the aptly named Mischief Reef, 120 nautical miles from Filipino territory but 600 from the closest Chinese island chain. The startling discovery came even as China was launching a wave of diplomatic efforts to demonstrate to the world that it was undertaking a "peaceful rise." In 2002, China signed a declaration with the Association of Southeast Asian Nations (ASEAN) pledging that all parties would act in good faith until competing claims to the sea were resolved.

Tension eased, but then Chinese patrol craft began seizing Vietnamese fishing boats and harassing U.S. naval surveillance ships operating in the contested waters. China also continued to develop its military capacities on Mischief Reef. Last year, to the relief of many ASEAN countries, U.S. secretary of state Hillary Clinton pointedly criticized Beijing's policy, stating that the United States favored "freedom of navigation, open access to Asia's maritime commons, and respect for international law." A Chinese Ministry of Defense spokesman retorted that "China has indisputable sovereignty" over the sea. As if to underscore the point, a Chinese submarine descended to the sea's deepest part and planted a Chinese flag in the seabed.

China's actions are "beyond serious," Ott contends. China is in violation of the U.N. Convention on the Law of the Seas, which holds that nation-states cannot