

PROJECT ON MANAGING THE ATOM

# 100 Grams (and Counting...)

## Notes from the Nuclear Underworld



**Michael Bronner**

June 2008



**BELFER CENTER**

for Science and International Affairs

Harvard Kennedy School

## ABOUT THE AUTHOR

Michael Bronner writes on current affairs for *Vanity Fair* and is a co-producer on an upcoming feature film for Universal Pictures about the search for WMD during the 2003 invasion of Iraq. He recently profiled a unique backchannel in US-North Korean nuclear negotiations:

<http://www.vanityfair.com/politics/features/2007/09/njspy200709>.

The author can be contacted by email at [bronner@gmail.com](mailto:bronner@gmail.com).

## ACKNOWLEDGMENTS

This publication is part of the “Securing the Bomb” project commissioned by the Nuclear Threat Initiative, with additional support from the John D. and Catherine T. MacArthur Foundation and the Ploughshares Fund. The author thanks Bruce Handy, Stuart Krichevsky, Bhakti Shringarpure, Tika Basharuli and Alexandre Kukhianidze for their help with the project.

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*Cover Image: The road sign to Kazbegi, Georgia, and over the border to Vladikavkaz, Russia.*

Source: Author’s Photo

## PREFACE

This report on the 2006 seizure of weapon-grade highly enriched uranium (HEU) in Georgia, by journalist Michael Bronner, provides new insights on both nuclear smugglers and those trying to stop them.

Bronner's account highlights the dangers posed by the toxic combination of routine smuggling, stateless zones such as Georgia's breakaway province of South Ossetia, and the essential ingredients of nuclear weapons. The story has a Keystone Cops quality on both sides – investigators who show up for the climax of a complex sting operation without any cash and almost lose their quarry, and a smuggler who carries HEU in plastic baggies in his pocket, and who provides his pursuers with an easily-traced landline number while chatting on his cell phone after the deal goes sour. At the same time, there are also some indications that the key smuggler, Oleg Khintsagov, may have been more than the incompetent small-time criminal he seemed: cross-examining witnesses himself, he reportedly showed an unexpected knowledge of nuclear matters, and his passport reveals travel to Syria, Saddam Hussein's Iraq, and the United Arab Emirates.

Bronner's report gives the reader an on-the-ground perspective on a global problem of enormous stakes, and has clear policy implications. First, given how easy it is to smuggle the essential ingredients of nuclear bombs, it is crucial to secure these materials at their source. Every cache of nuclear weapons or the plutonium or HEU needed to make them worldwide must be secured – as rapidly as possible – against the kinds of threats that terrorists and criminals have shown they can pose. (For more on what needs to be done to meet that goal, see the *Securing the Bomb* series, available at <http://www.nti.org/securingthebomb>.) Second, in this case, success in stopping nuclear smuggling came from old-fashioned police work – including stings based on tips from organized criminals in the breakaway zone. Third, radiation detection did *not* work – the smugglers easily bypassed radiation detectors at the Russian-Georgian border, with the help of a relative who was a retired customs officer. Fourth, the account suggests that some significant part of the nuclear smuggling danger may be from material stolen long ago – a part of the problem that nuclear security upgrades installed in the future will not solve. In particular, the Georgian and Russian investigations offer at least suggestive indications that the HEU may have come from the huge fuel fabrication facility at Novosibirsk, perhaps as long ago as 2000. Together, these points make a strong case for expanded international police and intelligence cooperation, including operations such as stings, as a key part of reducing the chance that the essential ingredients of nuclear weapons could fall into terrorist hands.

### SECURING THE BOMB

This publication is part of the “Securing the Bomb” project commissioned by the Nuclear Threat Initiative, with additional support from the John D. and Catherine T. MacArthur Foundation and the Ploughshares Fund. Full text of all the reports in the Securing the Bomb series and hundreds of pages of additional information are available at <http://www.nti.org/securingthebomb>.

More broadly, Bronner's account highlights the urgency of the threat of nuclear theft and smuggling, and the dangerous gap that still exists between that threat and the scope and pace of the U.S. and international response. Many nuclear facilities around the world do not have security measures that could protect against demonstrated terrorist and criminal capabilities. Only about a quarter of the world's HEU-fueled research reactors have had all their highly enriched uranium removed, leaving a major gap to be closed. There are currently no specific and binding global nuclear security standards in place.

Stronger efforts are needed to get countries to sustain upgraded security for the long haul, and to convince those who work with nuclear materials never to cut corners on security. The United States should expand its efforts to completely remove nuclear weapons and potential nuclear bomb material from as many facilities worldwide as possible. These efforts should be a top priority for the next U.S. administration.

In the meantime, the world urgently needs more of this kind of in-depth analysis of the most important nuclear smuggling cases, to explore patterns, trends, interconnections, and lessons learned.<sup>1</sup>

*Matthew Bunn is a Senior Research Associate at the Belfer Center's Project on Managing the Atom at the Harvard Kennedy School and a former adviser in the White House Office of Science and Technology Policy during the Clinton administration.*

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<sup>1</sup>. For other perspectives on this case, see Laurence Scott Sheets' "A Smuggler's Story," *Atlantic Monthly*, Vol. 301, No. 3 (April 2008), pp 60-70 <http://www.theatlantic.com/doc/200804/uranium-smuggling> and Elena Sokova, William C. Potter, and Christina Chuen, "Recent Weapons-Grade Smuggling Case: Nuclear Materials Are Still on the Loose," (Monterey, Calif.: Center for Nonproliferation Studies, Monterey Institute for International Studies, 26 January 2007) <http://cns.miis.edu/pubs/week/070126.htm>.

# 100 GRAMS (AND COUNTING...) NOTES FROM THE NUCLEAR UNDERWORLD

## Gldani Market

The air is a little clearer when it sleets in Tbilisi, but not much. The medieval capital city of the former Soviet republic of Georgia, an historic Silk Road sleep-over between Turkey and the Black Sea to the East and Azerbaijan and the Caspian Sea to the West, with Russia looming above, is defined by its old quarter of twelfth century Orthodox churches and domed sulfur baths notched into the cliffs of the Mtkvari River – and now also by so many cars that much of the charm of the quaint little place is obscured in a diesel haze. So it is apt, perhaps, that the story begins in a square-block slick of tarmac and taxi ranks on Tbilisi's outskirts: a mean little market called Gldani.

The Gldani Market surely has a similarly grim equivalent in most big cities. Bordered by traffic and mud with a crumbling trinity of hospital-blue, Soviet-era apartment blocks hulking over one edge, the market marks the final stop of Tbilisi's small subway line, built during the Cold War to second as a bomb shelter as much as for anything else. It serves a steady shuffle of darkly clad commuters who queue here for minibuses pointed further into the periphery. It is, in other words, no place special, or less.

Yet just after noon on the first day of February, 2006, a few steps from a beer and cigarette kiosk, something deathly serious was happening here – an incident that would set secure telephone lines ringing up and down Pennsylvania Avenue in Washington, culminating in a decision to load an unmarked government jet with the country's foremost nuclear security experts from the Department of Energy and the FBI and race them to Tbilisi.

It began just before noon, in the bustle of Gldani's lunch rush. An off-duty Georgian government security guard named Vaja Chikhasvili, along with his friends Revaz Kurkumuli, Henry Sujashvili and a Russian known at that point only as Oleg, were milling around nervously among the vendor stalls, trying to be inconspicuous. It wouldn't have been easy. The four middle-aged grifters were convinced they were about to become millionaires. However, sitting in an unmarked government "control car" nearby, and working in the service of the Free World that afternoon as much as he was Georgia's Ministry of Internal Affairs, Archil "Archi" Pavlenishvili, a jumpy, 32-year-old, prematurely bald detective in a silk tie and trench coat, was confident they were not. He had them surrounded. Or so he thought.

Pavlenishvili heads the Georgian government's secretive Radioactive Materials Investigation Team. Four days prior, one of the men now milling in the market, Vaja Chikhasvili, had passed one of his undercover operatives 2.5 grams of what he claimed was highly enriched uranium – a sample of a 100-gram cache he and his friends were offering for sale. Initially, Pavlenishvili had every reason to expect a hoax, and did. The dim realm of nuclear trafficking, insofar as any nation's intelligence agencies understand it (which ultimately



*The Gldani Market, setting of the failed sting*

Source: Author's Photo

may be very little), is littered with rumors and outright scams. When actual material is involved, it often turns out to be radioactive detritus barely useable in a so-called “dirty bomb” (which imagines terrorists using conventional explosives to disperse radiological material), let alone an actual nuclear weapon. However, lab analysis would prove this sample a serious exception: not only was it uranium, but highly enriched, to almost 90 percent purity. In other words, it was weapons-grade, as they say in the trade: suitable fuel for a nuclear bomb. What’s worse, the smugglers claimed to be able to deliver two to three kilograms more if the initial sale went well. What had been a sluggish, abortive investigation spanning the better part of a year suddenly kicked into high-gear.

One hundred grams of highly enriched uranium (HEU) is not enough to build a nuclear bomb, but it would be a step in the right direction. Three kilograms would be a big step, if not a bound. A top-tier terrorist group, even with the help of a handful of mercenary nuclear weapons experts who cut their teeth in a state-sponsored bomb program (a pool of which exists, particularly since the disintegration of the Soviet Union), would likely need anywhere from 15 to 50 kilograms, depending on their skill and the type of bomb they were going for. The rub is that no intelligence agency in the world can credibly claim to have a handle of how much stolen nuclear material may have already made its way onto the black market. In other words, every 100 grams counts. If the proffer in Gldani that first day of February was for real, and if the takedown went as planned, it would comprise the largest seizure of weapons-grade HEU in recent years (100 grams more, as it happens, than anyone found in Iraq in the wake of the invasion).

The smugglers were asking \$1 million for the initial shipment: 100 grams at \$10,000 per gram. The undercover Ministry of Internal Affairs (MIA) operative, in character as the middleman, could clearly afford it. He dressed in an expensive suit and spoke to the smugglers in Turkish. He was a smugglers’ savant, a businessman representing “a very serious organization,” Pavlenishvili says, describing his agent’s cover. In such circles, it would be wink enough. “Every second Turk wants to buy radioactive materials,” Pavlenishvili paraphrased the underworld assumption, which casts Turkish middlemen as the gateway for wealthy buyers in the Middle East (terrorists and rogue states with atomic daydreams). The rumors are well-founded. There have been nearly two dozen seizures of nuclear or radiological material in Turkey since 1993, and Turks have been arrested in 13 smuggling incidents elsewhere. The MIA’s agent looked the part. He was from Western Georgia, not far from the Turkish border. One million dollars would be fine, he told the smugglers.

The main haggling was over the location where they’d meet. According to Pavlenishvili, the smugglers were pushing for Tskhinvali, the central city in a breakaway region called South Ossetia on the Georgian-Russian border. A lawless mountain backwater and the setting of a recent war between separatists and the Georgian military, Tskhinvali and South Ossetia on the whole are armed to the teeth – hardly a place any Turkish middleman in his right mind would bring \$1 million cash (more on this later). It was the MIA’s middleman, the undercover agent, who suggested Gldani. Thus there was hardly an excuse for things going the way they did.

In the months preceding the February 1 operation, Pavlenishvili and other investigators from the Radioactive Materials Team had been meeting weekly with American CIA and FBI agents stationed at the US Embassy, according to Georgian intelligence officials who attended. American officials were kept apprised of the investigation, but for reasons that remain unclear, they were not told the time, place, or even the day the takedown was to take place, Pavlenishvili confirmed. “We had no time even to call [anyone],” he said. From the time the MIA’s undercover operative received the 2.5 gram sample, things moved extremely quickly. The three Georgian smugglers, and later Oleg, the Russian, were under surveillance right up to the point of the meeting. “When they arrived, they were under our complete control,” Pavlenishvili said. His 11-man team of

MIA investigators and SWAT officers were split among five cars as they rolled into position around Gldani Market.

Maybe it was because there was no actual cash that things got awkward. Everything else was going according to plan. The government team had no trouble spotting the suspects. When the undercover operative approached them, talking Turkish, Oleg, the Russian, produced two plastic baggies of greenish-gray powder. It seemed slightly darker than the original sample, but the operative believed it was real. He told the smugglers he'd take the bags with him and return in an hour with the cash, to which the smugglers, slouches but not so slow, said no chance. It had to be a swap – “hand to hand,” as Pavlenishvili put it. The smugglers and the undercover MIA man parted ways, agreeing to reconvene in two hours, same place.

*The smugglers were asking \$1 million for the initial shipment: 100 grams at \$10,000 per gram.*

It was at 2:00 p.m., the appointed time of the re-rendezvous, that Pavlenishvili realized they had a problem. Oleg, the uranium-bearer, and Henry Sujashvili, the senior-most of the Georgian smugglers, were missing. The material would almost certainly be with them, a hunch that was confirmed when the two junior smugglers, Vaja Chikhasvili and Revaz Kurkumuli, immediately turned the tables on the MIA's middleman: Give us the money, and we'll return in an hour with the uranium, they told him. The operative explained that the money was in his car, and that they were welcome to call their friends and accompany him there. An argument ensued. The operative accused the smugglers of playing “a dangerous game,” according to Pavlenishvili's account. And that's when they spooked. “It was a very unpleasant moment for us,” Pavlenishvili recalled: Before his agents could react, the smugglers disappeared into the crowd and car exhaust of the Gldani Market.

## **The odds of incineration**

The media stream of dire evocations of nuclear terrorism – from Condoleezza Rice's disingenuous conjuring of a “mushroom cloud” to rattle the country to war in Iraq to more realistic cautions – are generally qualified with enough ifs and unknowns that they can numb more than enlighten, but there is a startling chorus of serious public figures who have actually begun to rate the odds of a terrorist pulling off some form of a nuclear attack. They're not in our favor. William Perry, who served as Clinton's defense secretary and remains deeply involved in non-proliferation efforts, has cited an “even” chance of an attack over the next decade, adding that North Korea's bomb program in particular “poses an imminent danger of nuclear weapons being detonated in American cities.” (He's talking about the North selling nuclear material to a terrorist, not attacking outright.)

Graham Allison a Harvard professor and nuclear proliferation expert who served as an assistant secretary of defense in the Clinton Administration, is even less optimistic. “It's harder to believe that it hasn't happened than it will,” he said in a recent interview. When I asked him why, he cited an utter incoherence in strategy among governments, ours and others, for securing vulnerable nuclear material, particularly in Russia. “If all of the major actors just keep doing what they're doing today, it is more likely than not – 51 percent or higher – that terrorists will succeed in exploding a nuclear bomb in one of our cities.”

Perhaps the most unexpected of the odds-makers is Warren Buffett, the world's richest man, whose lack of nuclear security expertise, unfortunately, is offset by a formidable predictive prowess. “It will happen,” Buffett said at one of Berkshire Hathaway Inc.'s recent annual meetings. “Whether it will happen in 10 years

or 10 minutes, or 50 years ... it's virtually a certainty." The limiting factor is less whether terrorists could build a bomb – there's a good chance they could – but whether they can gather enough weapons-grade material.

The case that played out in Tbilisi through the afternoon (and well into the night) that first day in September, and over the months leading up to it, peels back the curtain on a furtive, murky, utterly nimble and ultimately elusive nuclear black market, if only one small corner of it. Most of all, it highlights how little nuclear smuggling networks are truly understood. It raises serious questions as to whether there are still holes in the protection for Russia's vast stockpiles of nuclear materials, despite a diverse, decade-and-a-half, multi-billion-dollar cooperative effort between the United States, Russia and dozens of other countries to tie down the world's loose nukes. And it suggests that current efforts rely too heavily on technology, rather than old-fashioned police work, to keep nuclear smuggling in check. What's perhaps most striking – and some say instructive – about the Tbilisi case is that the fuels of Armageddon would pass through such utterly banal channels.

### Smugglers from Kazbegi

None of the men in the Gldani Market were sophisticated smugglers. Vaja Chikhasvili, who in his mid-30s was the youngest of the group, has a young face and a full head of hair. He is known as nothing but a nice boy in his hayseed mountain hometown of Kazbegi, three-plus hours by car up a sometimes treacherous track from Tbilisi at the base of one of Georgia's highest peaks, Mt. Kazbek, at just a hair higher than 16,558 feet. A single, frozen road runs through town, bulging briefly into a square with a bleak obelisk in its center. It sits on a rare, flattish patch in the otherwise dramatic Aragvi River gorge. On either side, walls of snow-slatted



*The Kazbegi vista, near one of the homes of the smugglers.*

Source: Author's Photo



rock rise straight into the sky, disappearing into glare and shifting clouds such that the visage of Mt. Kazbek's fabled summit is often left to the imagination.

The mountain really is fabled – it figures in Greek mythology – though if Vaja Chikhasvili was ever told the story, he clearly failed to heed its moral: It was to a rock on Mt. Kazbek that Zeus is said to have chained Prometheus, Titan god of forethought and crafty counsel, for the sin of stealing sacred fire from the sun and delivering it, against Zeus' explicit proscription, to mankind (which Prometheus had just finished molding out of clay). The rebel god, son of Iapetos, was further condemned to have his liver pecked day-in and day-out by a either an eagle or a griffon-vulture (scholars differ). Vaja and his friends were skirting a similar crime.

Everybody knows everybody in Kazbegi, though whether it was the altitude, the translation or just a momentary reportorial lapse, I left a conversation with two bundled pensioners I found chewing the fat at a snack stand in the snow (one of which raised his steel-tipped walking stick to point out Vaja's childhood home just up the pasture) woolly on which of the boy's parents had died and which had run off, but clear on the fact that he spent his youth in the care of his grandmother up to not much more than helping her tend her cow. Surely there are few more stunning settings than Kazbegi for keeping cattle, though the small red bulls and little-horned cows milling sweetly on the town's snow-packed streets seem generally to tend themselves. As Vaja tucked in his long-johns and set about his chores each morning, he would have done so beneath the proud gaze of the fourteenth century Tsminda Sameba (Holy Trinity) monastery, looming on a rocky outcropping just up the glade from his grandmother's house and testifying, all the guidebooks say, to the locals' "fierce mountain identity."

But Vaja Chikhasvili turned his back on all that. He headed down the mountain for the capital, taking a job as a security guard for the Ministry of Internal Affairs, where, the story goes, he was respected more for his brawn than his brains. They assigned him to stand sentry at the Georgian Parliament building, which he is said to have done well. According to his old neighbors, Vaja would never wittingly involve himself in something so sinister as nuclear smuggling – no way, they said. About the others, however, they were not so sure.

Henry Sujashvili and Revaz Kurkumuli are also from Kazbegi (a name colloquially used to refer to all the small settlements on the river gorge's isolated, uppermost flats surrounding the actual town). Both men were in their late 40s or early 50s, according to Georgian officials. Henry was a known small-time smuggler, which in the economically depressed region immediately abutting the Russian border can mean little more than someone complicit in the commonplace hustling of everything from wheat, flour, gasoline, cigarettes, foodstuffs, drugs and other low-level contraband that comprises a massive daily exchange back and forth across the poorly monitored frontier. Bald, jowly and double-chinned, he is said to have a wife and two grown children. His day job was driving a taxi around town.

Revaz was a drug dealer, but also small-time – "like a pusher," as one Georgian official described him. (Heroin, Russian pot and a methadone-type opioid called subutex circulate in Georgia.) Also balding, Revaz wears a dark mustache that perfectly parallels the arc of a thin-lipped frown, at least in one of his mug shots Georgian officials showed me. Revaz was involved in a number of legitimate but failed small businesses on top of the drugs. The latest was a hapless travel agency that arranged tours to Russia, a venture that became nonviable when Russia stopped issuing visas to Georgians in the wake of a recent flaring of tensions between the neighboring states.

Vaja, Henry and Revaz grew up in the same small town and were close friends, which up in Kazbegi country means a tighter bond than in other parts. "They were like one family. It was their custom to share

money, for example,” said Archi Pavlenishvili, the Radioactive Materials Investigation Team officer. “If one of them became wealthy, then others must be also.” No later than the beginning of 2005, a fourth man entered the family promising they’d all get rich. It was Oleg, the Russian, whose last name investigators would later learn to be Khintsagov.

### **A free flow of drugs, weapons, and counterfeit \$100 bills**

Oleg Khintsagov lived with his father and brother in a town called Nogir in the Russian republic of North Ossetia, just across the Caucasus from its ethnically linked Georgian sister province, South Ossetia. A thin, dark-featured, sad-faced man whose eyebrows are more substantial than his wee black mustache, Oleg, as supplier of the HEU, was the lynchpin of the smuggling scheme. Before they learned his last name, investigators referred to him as “Dudayev” because they thought he looked like the Chechen separatist leader, Dzhokhar Musayevich Dudayev. In real life, Oleg was known (insofar as he was known) mainly as a small-time trader of foodstuffs and other goods, or so the Georgian investigators described him initially.

More important to the plot, perhaps, than the men themselves (for there are many more just like them) are certain realities of the region the smugglers come from, morally and economically reduced by a mess of violent little wars and the criminal rings that spring up to fund them. It’s a very tough neighborhood. The 2004 Beslan school hostage crisis, which left some 400 people dead at the hands of Chechen separatists, was in North Ossetia, just above the Georgian border. Chechnya itself, which federal Russian forces pummeled to oblivion over the course of two campaigns against separatists and foreign Muslim terrorists, is also right there. And inside Georgia’s borders, most central to this particular smuggling story, is a nasty frozen conflict in the breakaway region of South Ossetia, that has left the mountainous frontier an uncontrolled, unmolested nest of organized crime – a marketplace for a range of contraband from fuel to cigarettes, wheat flour, drugs, weapons, people and, recently, counterfeit US \$100 bills. It is in this realm that Oleg traveled freely.

“Whatever is a viable smuggling route remains a viable smuggling route, whether you’re selling drugs, arms, people or other contraband. Nuclear materials move right along with everything else – that’s the genius of it,” says Louise Shelley, Ph.D., head of George Mason University’s Transnational Crime and Corruption Center in Arlington, Virginia. Shelley and her team of American, Russian and Georgian researchers have tracked highly-effective, free-wheeling smuggling routes to and through Georgia, from Russia to Turkey and Western Europe. “WMD is the most dangerous piece, but only one piece in an incredibly dangerous nexus of organized crime and terrorists,” she said. Shelley describes a new breed of loosely-organized, spontaneous, informal criminal networks that thrive on the desperation and poverty of these war-torn regions and are extremely difficult to track, particularly in regions like South Ossetia, where there is an utter lack of authority.

South Ossetia is a very strange place. On a map, it comprises a 2,400-square-mile splotch of territory within Georgia’s internationally recognized borders. Practically, however, even though it’s just an hour’s drive from Tbilisi, the region is a no-go zone for most Georgians, semi-sealed from the rest of the country at a gruff “administrative border” by armed South Ossetian separatists and Russian peacekeepers ever since a ceasefire halted a fierce civil war in 1992 (the Georgian military was forced to retreat from its own territory). The line of control swoops down from the Russian border deep into Georgia and back up again. An American equivalent, roughly to scale, would be a cordoning off of Minnesota and the Dakotas from the rest of the Union.

What makes South Ossetia a smuggler’s nirvana is that Georgian authorities cannot enter to impose law and order, and Georgian border police can’t get anywhere near the true border with Russia (the heavily-armed separatists shoot at them). To enforce any kind of customs controls on the administrative border,



*Top Row: Oleg Khintsagov (Left), Revaz Kurkumuli (Right)  
Bottom Row: Henry Sujasvili (Left), Vaja Chikhasvili (Right)*

Source: Georgian Ministry of Interior

inside Georgia, would be to recognize it as a legitimate frontier, so they don't. The result is essentially an open border and smugglers' free-trade zone. It's open year-round. South Ossetian separatists control the region's only all-weather link to Russia, the Roki Tunnel, which plunges into a mountainside in the conflict zone, cuts beneath the snowcapped Caucasus and pops out in Russia, in North Ossetia. The only border control is on the Russian side, and the Russian Customs are hardly a firewall. "Russian customs are allied with peacekeeping forces and together they participate in illegal trade," said a Georgian researcher who has worked extensively in South Ossetia. "Russian peacekeeping forces are wholly complicit in smuggling activities."

A flagrant case in point is the recent discovery of a major transnational counterfeiting operation of American \$100 bills run from a strikingly high-quality printing press in South Ossetia. "It's a pretty sophisticated counterfeiting piece," said a senior US Embassy official, adding that the fake bills appear authentic enough that,

if you weren't specifically looking for a forgery, you could easily miss it. More than \$20 million in fake bills have been found up and down the East Coast of the United States as well as in Israel, Russia and Georgia. Georgian authorities have intercepted at least four shipments, one as large as \$300,000. "We know where the printing press is. We know the channels of distribution. And we know who is running the business," said Shota Utiashvili, chief intelligence analyst at Georgia's Ministry of Internal Affairs. "But the problem is neither we or the Americans can do anything because the place is under the protection of the Russian military."

Everything the Georgian officials say about the Russians has to be taken with a grain of salt, and vice versa, because they disdain one-another, but the Russian influence in South Ossetia was obvious when I talked my way into the region during a recent reporting trip (for what turned out to be a surprisingly pleasant afternoon strolling the snowy streets of Tskhinvali, the main town, with a sweet South Ossetian teenager who, improbably, spent a year as an exchange student in Richmond, Virginia, and agreed to translate for \$60). Half the citizenry of Tskhinvali seemed to be dressed in camouflage clothing (the other half being either female or elderly); they are members of separatist militias who are paid, directly or indirectly, by Russia. Russian Tricolors fly alongside South Ossetian flags above stores and municipal buildings. The Russian government bankrolls a "defacto" South Ossetian bureaucracy, fully subsidizing health care and other services (surpassing government subsidies in Russia itself). The place likely bears as close a likeness to the old Soviet Union as any time-warped enclave anywhere.

## A sample of the “Bad Thing”

It was January 2005 that Georgian intelligence first received reports out of South Ossetia that a Russian named Oleg, with his Georgian associates, was looking for a buyer for what he claimed was high-quality radioactive material pilfered from a Russian military site. The report came through South Ossetian criminal contacts run by Georgian intelligence. “The criminals, religious extremists, drug dealers, arms dealers and [nuclear smugglers] are all interconnected,” Batu Kutelia, the current deputy defense minister and former chief of foreign intelligence, told me in a recent interview. Word on the South Ossetian street was that the material was currently in the Russian city of Vladikavkaz, the industrial capital of North Ossetia, and ready for transshipment, through Oleg, at any time for the right price.

None of this particularly raised eyebrows early on in the investigation – there had been no specific mention of highly enriched uranium and the proffer was more or less indistinct from scams Georgian intelligence had pursued before – but Archi Pavlenishvili, the Radioactive Materials Investigative Team officer, instructed the informants to ask the smugglers if they could provide a sample. “This conversation wasn’t about some huge amount of materials. It was one or two grams maximum,” Pavlenishvili told me. As time passed, however, the smugglers proved either unable, or unwilling, to produce the material just yet. They may have just been being careful.

Kutelia, the deputy defense minister, described an analysis of nuclear smuggling patterns Georgian intelligence conducted with American CIA officials. They concluded that smugglers typically begin by “channeling” information through a number of different criminal contacts, putting out feelers for interested buyers and watching very carefully how the information travels. It’s a process that can play out over years. Eventually, they follow a similar channeling pattern with actual material – small samples of a gram or two at first – methodically trying to distinguish between real buyers and undercover agents they know are out there. This seems to be what happened in this case.

Nearly a full year after the initial proffer, Oleg reappeared on Pavlenishvili’s radar, following new informant reports of nuclear chit-chat in criminal circles in South Ossetia: Oleg and friends were seeking buyers again. This time, Pavlenishvili told me, Oleg specifically referred to highly enriched uranium, which was unusual. “He mentioned it only once,” he said. “Traditionally, they use cover words like ‘Bad One’ or ‘Bad Thing.’” Once again, the MIA team’s criminal contacts were instructed to ask for a sample, and this time the answer came back positive. It was late December. The undercover MIA operative, posing as the Turk, went to collect and returned with the 2.5 grams of dark gray powder: the “Bad Thing” indeed. The Georgian lab that analyzed it made a mistake initially, deeming it 37 percent enriched, rather than 90 percent, as they’d later learn, but it didn’t matter. “For us, it was enough,” Pavlenishvili told me. He had his undercover operative make the date: February 1 in the Gldani Market.



*Georgian border guards at Red bridge, standing in front of upgraded sensor equipment (not the kind located at Kazbegi)*

Source: Author’s Photo.

## “Unchecked travel” with HEU

January 31, the day before the meet, MIA operatives followed Vaja Chikhasvili up the mountain from Tbilisi to Kazbegi, where his friends Henry and Revaz were waiting, according to Pavlenishvili. Together, the three Georgians then headed further up the road toward the Russian border. The ice-encrusted route follows the river into an increasingly tight gorge with cliffs rising on either side as you approach the actual line. A rusted green and white, single-armed steel gate and small green guard shack mark the last post on the Georgian side, about 100 yards before the actual border, where US-sponsored construction of a more modern outpost was underway at the time of my visit (but to date has not been completed). Vaja, Henry and Revaz crossed easily into Russia (North Ossetia) to meet their friend Oleg.

According to Pavlenishvili, the original plan had been for Oleg to pass the HEU to the three Georgians for them to deliver in Tbilisi, but Oleg surprised them by saying he would cross over and travel with them to the meeting, keeping the material in his possession. When I pressed Pavlenishvili on how he knows some of these specific details, he said informants wore wires during certain parts of the investigation – “sometimes, when it wasn’t too dangerous” – but refused to be more specific. What’s clear is that when the smugglers passed the Russian and Georgian border posts on either side of Kazbegi with 100 grams of highly enriched, weapons-grade uranium, they successfully navigated not only the Russian and Georgian border guards on duty that day, but two sets of US-funded nuclear “portal monitors” – radiation detection sensors installed on either side of the line specifically designed to prevent exactly that.

Portal monitoring systems are a cornerstone of wider US efforts to prevent nuclear terrorism. Since 1994, the DOE, DOD and State Department have installed nuclear detection equipment in 36 countries – at seaports, airports, border crossings, bridges and tunnels - with DOE’s National Nuclear Security Administration spending upwards of \$420 million to date on its Second Line of Defense program. Through 2007, NNSA has equipped more than 110 Russian international border crossings with radiation detection devices, with plans to equip 100 percent of Russia’s international border crossings – some 350 sites – by the end of 2011. In Georgia, the DOE has plans to install new equipment at 20 sites. Homeland Security has its own program, and recently awarded contracts for \$1.2 billion-worth of nuclear detection equipment for installation inside the US over the next five years. Despite all this activity, however, anyone who imagines some sort of protective force field for loose nukes understands far less about the pitfalls of these systems than the four smugglers at the frozen Kazbegi border crossing.

The radiation monitors currently in place at the Kazbegi border are part of a “first generation” design, some six sets of which were installed in Georgia nine years ago, according to John Trumble, a former US Coast Guard captain who headed the US Export Control and Related Border Security assistance program for Georgia from an office in the US Embassy. “They worked well when power was available and trucks had not backed into them,” Trumble said of the old monitors. “They actually were installed in PVC tubes hung on the gates.” According to the Georgian border guards I met at Kazbegi, they hang there broken or inoperative a lot of the time.

“It can be turned off,” Trumble admitted, referring not only to the old design, but the state-of-the-art equipment as well. “And if your follow-on question is, ‘Was it ever turned off?’ Yes. We do know of portal monitors that were turned off for extended periods of time.” Power outages are a big problem because the equipment requires rebooting every time power is cut. “Under the old [government] system, I mean, we lost power here a lot. Every day, ten times a day or more,” he said. “At some point, people just said, ‘The hell with turning-- I mean, we gotta walk 100 meters to turn it back on.’ So they didn’t. In other cases, people were not motivated to use the equipment.”

There are indications that on January 31, 2006, the border guards on either side may have been more than simply “not motivated”: It appears the smugglers may have had some help. According to Russian-language documents I obtained from Georgian intelligence officials (which the Georgians identified as a Russian intelligence report provided by the Russian Federal Security Service [FSB] during a brief period of intelligence-sharing on this case), Oleg Khintsagov has a cousin who is a former Russian customs officer, a fellow by the name of M.I. Garabaev:

Allegedly, Garabaev, M.I., used his connections with the customs officers, to provide unchecked travel for himself and Khintsagov, O.V., through the Russian-Georgian border. It is established that Garabaev, M.I., and Khintsagov, O.V., crossed the Russian-Georgian border on the 14th of September and 11th of December of 2005 and the 4th and 31st of January 2006. Currently we are investigating their connections for their possible participation in illegal traffic of radioactive materials. FSB Report

On the Georgian side, Vaja Chikhasvili’s position as a Ministry of Internal Affairs security guard could well have helped the group and their baggie-wrapped, bomb-grade parcel skate unchecked past Georgian border police, Pavlenishvili told me. A March 2006 Government Accounting Office (GAO) report cites border guard corruption as a widespread problem in several countries in which the US has installed detection equipment.

“We pay quite a bit of attention to the insider threat,” a DOE official based in Moscow told me. Part of the \$500 million the United States spends annually on nonproliferation in Russia includes providing the Ministry of Defense with polygraph machines, drug testing kits, and training on how to use psychological evaluation to weed out potentially unstable or corrupt guards. “They have some of their own ideas about certain testing equipment that we are not endorsing,” said the DOE official, noting one device in particular. “I don’t know what you really call it, but we refer to it as a ‘mind-reading machine.’ I don’t know how it works.” A similar program is being discussed with Rosatom, the state nuclear corporation, which has responsibility for most of the nuclear material in Russia not currently in military use.

Even without insider help, the nuclear detection equipment at the borders is fairly easy to trick. Highly enriched uranium can be shielded to avoid detection, even with the new generation of sensors (though in this case, there is no indication the smugglers bothered). An October 2006 GAO report found that the best of the new portal monitoring systems contracted for by Homeland Security (part of the \$1.2 billion) detected HEU masked by placing it next to benign radioactive material only 53 percent of the time. The other two systems, also part of the contract, were far worse, sending alarm bells ringing only 45 percent and 17 percent of the time, respectively. With any substantial amount of shielding, that percentage would fall to zero. Much of the detection equipment currently in place cannot differentiate between dangerous radioactive materials and substances with general background radiation – like kitty litter and bananas.

The overwhelming majority of thwarted smuggling has involved intelligence information from human operatives and informers, though just after 2:00 p.m. in the Gldani Market, even that wasn’t going very well.

## Smugglers split

Radio calls flew fast and furious between the surveillance cars arrayed around the perimeter of Gldani as Vaja and Revaz, the two spooked smugglers, split from the scene of the second failed meeting. Pavlenishvili and his team suddenly found themselves struggling to recover. The stakes were obvious. “We thought these

guys became really afraid, and we [were afraid that] especially Oleg would return to South Ossetia" – in other words, to the safety of the conflict zone, Pavlenishvili said. "And then we will have lost Oleg." Also lost would be the 100-gram package of HEU and any hopes of nabbing the additional two to three kilograms Oleg was boasting the ability to deliver later. At this point, the investigators still didn't know Oleg's last name.

The SWAT guys on hand, dressed in civilian clothes, plunged into the market. Pavlenishvili didn't care about Vaja and Revaz at the time; he knew he could find Vaja at his job, and Revaz kept a small office in Tbilisi where he was bound to turn up eventually. The orders were to let them go and focus entirely on Henry and Oleg. The SWAT team made two full searches of the market, but to no avail. "Henry and Oleg, they disappeared without a trace," Pavlenishvili said. The team got back in their cars and raced back to their headquarters at the Ministry of Internal Affairs to regroup.

Pavlenishvili was driving as he relayed this part of the story to me during what turned into a three-hour rolling interview. He delivered the details in a rapid-fire, quirky cadence as we moved fast toward the capital (we had been at Gldani), reacting to other traffic only when absolutely necessary (seat belts were mandatory during Soviet times and, as such, Georgians disdain them, both for themselves and their passengers). If this was the investigator's adrenaline level during a late-afternoon chat months after the fact, one can only imagine what it must have been in the heat of it.

After quick deliberations at headquarters, the investigative team split in two. Pavlenishvili's group would focus on Henry and Oleg, and the second group would track Vaja and Revaz. The MIA had been monitoring the groups' cell phone calls throughout the investigation and also had taps on some landlines in Kazbegi, according to the chief MIA analyst, who sat in on one of my interviews with Pavlenishvili.

Just before 5:00 p.m., the second team got a break. Agents intercepted a cell phone call from Revaz to Vaja, who, incredibly, had gone directly from the failed nuclear smuggling transaction back to his job standing watch at the National Parliament. According to the investigators, the two debated about whether they really had been set up, or whether they were just being paranoid. Revaz in particular was worried Oleg would return to Russia before they had a chance to complete the deal. Both were still eager to be rich. The two agreed to meet in person at Vaja's guard post.

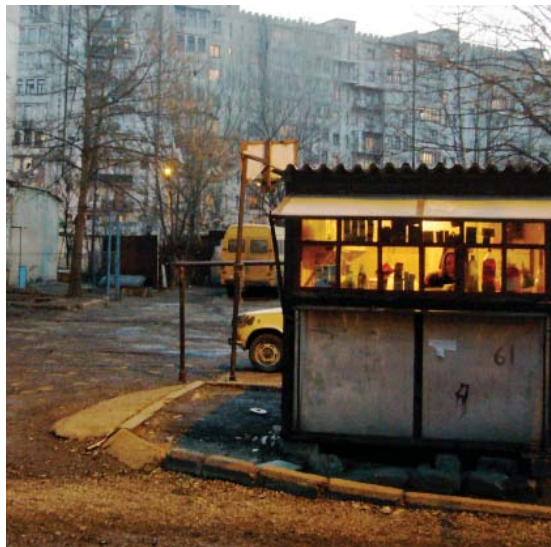
Meanwhile, Pavlenishvili's team was having no luck tracking Henry and Oleg, and it was getting late. For lack of a better option, the decision was made to arrest Vaja and Revaz and put the screws to them, hoping they'd lead the investigators to Henry and Oleg. Two investigators and four guys SWAT guys drove to the Parliament building, just down from Freedom Square on Tbilisi's main thoroughfare. Vaja's post was on the side of the building. The investigators watched him walk 40 meters up the street, where Revaz was waiting. That's when they jumped them. "They were shocked, and were very much surprised," Pavlenishvili said.

The two would-be smugglers were taken to the MIA headquarters and interrogated. Pavlenishvili told me Vaja had a 1 gram sample of the HEU on him when he was arrested. During questioning, Vaja claimed the police planted the sample on him (not an uncommon police tactic in Georgia, according to Georgian anti-corruption experts who granted several long interviews on background). Both Vaja and Revaz adamantly denied being part of a nuclear smuggling scheme and refused to provide any information on the whereabouts of Henry and Oleg. Fortunately, it wouldn't matter.

About 20 minutes after Vaja and Revaz were arrested, Pavlenishvili's team intercepted a second phone call, this one to Henry's family's home in Kazbegi. He was calling to say he'd be spending the night in Tbilisi at a relative's apartment, according to Pavlenishvili. He said his cell phone battery was dying and gave the number of the landline. The team was able to trace the number and rushed to the address.

## Search and seizure

At dusk, little, lighted grocery kiosks glow like amethysts at the base of the giant, forlorn clusters of housing blocks on Tbilisi's outskirts. Just before 8:00 p.m., three investigators and a five-man SWAT team rolled slowly up a muddy lane to the entrance of a bluish-white, eight-story council house in a low-income suburb called Muthiani, not far from the Gldani Market. The SWAT men put on ski masks. They carried pistols and explosives to take down the door of the sixth-floor flat where they believed Henry and Oleg were hiding. "We didn't want to give them the chance to destroy the material – in the lavatory, for example," Pavlenishvili explained.



*A grocery kiosk, near the apartment block in Muthiani where Oleg Khintsagov and Henry Sujasvili were arrested*

Source: Author's Photo.

Pavlenishvili waited at the landing while one investigator and two SWAT guys approached the door. The rest of the SWAT team positioned themselves on the stairs. They wouldn't need the explosives. "As soon as our officer rang the bell, immediately the door was open," Pavlenishvili said. Henry and Oleg were inside, along with a petrified female mathematics teacher who was Henry's relative. The officers told them to be quiet. They told them they were under arrest. As the two men were restrained, the rest of the team rushed in and began searching the apartment. One carried a Geiger counter that had been donated by the US Department of Energy.

The initial search didn't take long. It was right there, in the pocket of Oleg's briefcase: a clear plastic bag with two smaller bags within, each packed with greenish-gray powder. The investigators ran the Geiger counter over it for good measure. Mission accomplished.

They had the "Bad Thing" in hand. It was just then, Pavlenishvili said, that Henry, red-faced and trembling "played a small theater." He turned on his friend, Oleg: "Is it true?!" Pavlenishvili says he said. "Is it real radioactive materials?! Oh, now my family's ashamed! What have you done?!" Oleg, for his part, was shaking so violently, Pavlenishvili said, that they had to stop on the way to MIA headquarters to buy him a bottle of water. "No, don't worry," Pavlenishvili says he told him. "Now, everything for you is over."

Upon being taken into custody, Oleg was examined for signs of radiation sickness – he had, after all, been the principal courier of the unshielded HEU – but while the prospect may sound like a recipe for expedited death, weapons-grade U-235, the isotope in question, is not radioactive enough to make you sick even if you carry it around in a baggie. According to Georgian officials, Oleg showed no signs of radiation sickness.

Late that night, a call was placed from the Georgian Ministry of Internal affairs to the US Embassy. This was about a lot more than 100 grams of greenish-gray powder now. This kind of thing isn't supposed to happen any more.

## "The system fell apart absolutely"

In October 1993, principals of US intelligence and national security agencies gathered for a series of extraordinary closed briefings. The guest speaker, quietly dispatched from Moscow, was Colonel-General



Yevgeni Petrovich Maslin, commander of the 12th Main Directorate of the Russian Ministry of Defense – the man in charge of Russia’s vast nuclear arsenal. He had come seeking America’s help. “It was a romantic period,” Maslin told me wistfully in a recent interview, “New Russia, America, locking each other in an embrace...Everything was in ruins.”

Maslin’s orders at the time were to gather Russia’s “stepdaughters” – some 5,000 nuclear warheads distributed among the former Soviet satellites like Ukraine, Belarus and

Kazakhstan, along with thousands more tactical and strategic delivery systems – and bring them home to Mother Russia. But as everyone knew, Mother Russia was in chaos then. “There was no money. The system fell apart absolutely,” Maslin said. The dimensions of the problem in that critical period were profound. On top of the 5,000 orphaned nuclear weapons outside Russia’s borders, there were some 30,000 warheads inside Russia, along with some 40,000 tons of chemical agent and stocks of plutonium and highly enriched uranium estimated to be enough to make some 60,000 additional warheads (the Soviet accounting system for nuclear material relied upon hand-written logs). In addition, there were thousands of unemployed scientists and engineers with the knowledge and experience to build a vast array of weapons of mass destruction. Even General Maslin went months without pay during that time. “Before, everything was held together by patriotism,” Maslin said. No longer. The new threat was summed up with a term unimaginable during the Cold War: “Loose Nukes.”

Courageous Russian journalists, followed by the international press corps, charged into the nuclear ruins, filing portentous stories throughout the early 1990s of poorly-guarded stocks of highly enriched submarine fuel at Russian Navy depots, gaping holes in fences at nuclear storage facilities, even rumors of stolen warheads and hundreds of missing nuclear “suitcase bombs” – portable tactical nukes that were said to be part of the special forces arsenal. Maslin, the Russian general, dismisses the possibility that a single warhead went missing, and sought during our interview to put the missing nuclear suitcase rumor to bed once and for all. Yes, they existed, he said, but no, none were stolen: “It’s totally ludicrous. You can tell everybody.” Nearly every US official I spoke to who was involved in those early days waxed nostalgic at the mention of Maslin, calling him one of the first and most effective partners on the Russian side, but few would second his certitude that the warheads were all accounted for.

The US government has led a huge international effort to reduce the threat, springing from landmark legislation written by former Georgia Senator Sam Nunn and Indiana Senator Richard Lugar. To date, what’s known as the Nunn-Lugar Cooperative Threat Reduction program has deactivated or destroyed 7,260 nuclear warheads, with globetrotting CTR workers taking cranes, cutters, shears and chainsaws to all and sundry Soviet nuclear infrastructure – everything from ICBMs to bombers, silos and nuclear submarines. It’s an impressive dent, but according to figures cited in *Securing the Bomb 2006*, the definitive annual nuclear security update, at the time Khintsagov and his friends crossed the border, the comprehensive security and accounting upgrades the United States was sponsoring had been finished for only 29 percent of the buildings that held nuclear bomb material in the former Soviet Union, and only 40 percent of the Russian nuclear



*The recovered highly enriched uranium*

Source: Georgian Ministry of Interior

warhead sites. More have been completed since then, of course; Russian and American experts are rushing to meet an agreed target to finish the upgrades at the sites where they have agreed to cooperate by the end of this year.

### The latest case

Oleg and company's 100 grams of HEU is but the latest case of nuclear material on the move. The International Atomic Energy Agency (IAEA) chronicles a drumbeat of thwarted smuggling incidents involving "weapons-usable" contraband. In 1992, it was Moscow: a chemical engineer pilfered 1.5 kilograms of HEU from a specialty fuel fabrication facility over a five month period. In 1993, it was Vilnius, Lithuania (4.4 tons of beryllium contaminated with HEU) and Murmansk, Russia (two thefts of uranium from Russian Naval facilities – 1.8 kilograms of HEU and 4.5 kilograms of 20 percent enriched uranium). In 1994, a big year, it was Russia (3 kilograms of HEU); Tengen, Germany (6 grams of plutonium); Landshut, Germany (1 gram HEU and 120 uranium fuel pellets); Munich, Germany (4 grams of plutonium); and Prague, Czech Republic (2.7 kilograms of HEU). The list goes on, citing cases in Bulgaria, Kyrgyzstan, Greece, France and now Georgia, which has become a key transit country between Russia, Europe, Central Asia and the Middle East.

The IAEA cases, which represent only what was caught (and what states were willing to tell the IAEA about), are surely only the tip of the iceberg. "Law enforcement in Turkey, which is a hub of the black market, confiscates only about 10 percent of drug smuggling," Shelley, the George Mason University researcher, points out. "It's probably even less for nuclear." Her team's research, some of which is funded by the US government, has uncovered what she calls a dangerous nexus between organized crime and terrorists, with buyers for weapons-usable material in Western Europe relying on Georgian criminals, among others, for transit. "The criminals who are operating in Georgia are meeting up with terrorists in Western European prisons, so there is an international link that exists," she explained. "There are Georgian criminals in European prisons for crimes like credit card fraud, car theft, drug sales, etc., and the terrorists are there for the same activities. The Georgians are experts in the transport networks, and they offer their services. Sometimes they probably are not even aware of what they are moving."

Khintsagov's caper was not the first serious "weapons-usable" smuggling case in Georgia. In June 2003, an Armenian war hero named Garik Dadayan was busted when he walked through a nuclear sensor on the Georgia-Armenia border with 170 grams of unsheathed HEU in a tea box (in this case, fortunately, the sensor was operational and sounded the alarm – but unfortunately, it may have only been because Georgian agents who had been tailing Dadayan for hours gave the border post prior warning, according to researchers familiar with the details of the case). Sources who insisted on anonymity indicated that there are other recent cases involving Georgia that the IAEA has not reported, and that the Georgian and US governments are not talking about.

Spring came for US nonproliferation efforts in Georgia in November 2003. Massive street demonstrations erupted in protest of massive corruption in the government of Eduard Shevardnadze, the wily ex-Soviet foreign minister who took control of Georgia after the Soviet Union's collapse. As the protests swept across the country, a 36-year-old lawyer named Mikheil "Misha" Saakashvili and fellow opposition leaders, armed with roses, stormed the Georgian Parliament, interrupted Shevardnadze in the middle of a speech, and explained to him that he had to leave. It was called the "Rose Revolution." Saakashvili, who studied law at Columbia and George Washington University, became president the next year and installed an energetic, pro-American government eager to help the US with all its vital interests in the region (at the top of the list are vital oil and gas routes that traverse Georgia, including the only route out of the oil-rich Caspian Sea that avoids Russia, called the Baku-Tbilisi-Ceyhan pipeline).

There is an incredible “Lord of the Flies” quality to Saakashvili’s government. The ministries are full of mostly young men in their late 20s and early 30s, clad in dark coats and bristling with confidence. I didn’t meet a single government leader over 33 years old – from the chief intelligence officers at the Ministry of Foreign Affairs to the head of foreign intelligence, the deputy defense minister, the deputy prosecutor general, the head of the bureau of prisons, or the embassy staff in Washington. They all seem to be in a hurry to reclaim their country. Upon taking office, Saakashvili fired every single traffic cop, an epicenter of corruption, along with all the prison directors, who had allowed organized crime leaders to run their operations from cell phones inside the prisons. According to the US ambassador in Tbilisi, John Tefft, Saakashvili’s government has been especially helpful with non-proliferation efforts. “They don’t need this to become the international marketplace for nuclear smuggling,” he said in recent an interview.

## Nuclear CSI

Word of the Georgians’ HEU seizure went out by secure email from the FBI’s legal attaché in the US Embassy in Tbilisi to FBI headquarters in Washington. It landed on the desks of Supervisory Special Agent Michael Varacalli, chief of the Bureau’s WMD Operations Unit, and Special Agent Jay Manning, who was in the process of standing up the FBI’s new WMD Directorate, a nexus of FBI expertise from the counterterrorism, counterintelligence, laboratory and critical incident response divisions. In the post-9/11 world, far more perverse than one might have imagined, the WMD Operations Unit spends much of its time parsing a daily traffic in mostly hoax “white powder letters,” Varacalli said. “We could have a couple a day up to 10 a day sometimes.” One hundred grams of HEU would make for a far more elaborate package.

Phone calls and cables flew fast between US government agencies, drawing in some 30 people in the WMD Ops Unit alone. There were several pressing questions: Was the material really the real deal? Was it safely secured? How did it travel across borders undetected? And most importantly, given the smugglers’ proffer of two to three kilograms more, where did the HEU come from? Finding and plugging the source would be critical. “We weren’t really willing or eager to jump out there and take over this investigation for them. The Georgians were highly capable of running a successful operation, and we were just waiting for an invite from the government to basically add to what capabilities they had,” Varacalli said. The invite came pretty quickly, through an official letter of request from the Georgian government to the US ambassador in Tbilisi. The Georgians were perfectly happy to have their American friends come and take the stuff away. The decision was made to fly to Tbilisi.

“You can’t just go to Tbilisi on United and pick up 100 grams of highly enriched uranium and bring it back,” said Manning. Further approvals were sought and secured from FBI Director Robert Mueller III and the National Security Council in the White House. In addition, “just about every agency” in the intelligence community was made aware of the mission at some level, Varacalli confirmed. A joint team of experts was assembled from the Energy Department and the FBI’s WMD unit – about ten people in full, including criminal investigators, nuclear experts and lab personnel. Between the two agencies, someone found a plane – a Gulfstream – though “not the kind that says United States of America across the top,” Manning said. “The request of the Georgian government was to come in very quietly, to do our business, and to leave very quietly. Which is quite frankly hard to do when you bring palettes of equipment... You could probably fill up this

*Team members suited up in radiation gear and began a forensic analysis that would last several hours... It was part CSI, part hot-potato.*

office with the amount of material and equipment the US government brought to bear just to bring 100 grams of highly enriched uranium safely back to the United States.”

Upon hitting Tbilisi, the team met with Georgian prosecutors who would be handling the case. The Georgians said they wanted to make the transfer the following morning. “They’re very concerned about the security of the material, so a decision was made to actually move this via an armed convoy to a government location outside of the city where we would have greater control,” Manning said.

The American experts arrived early. They cleared a room at the government site and tested it for baseline radiation. Then the Georgian convoy arrived with the HEU – in what struck some of the team as something other than a secure container. “To me it resembled a paint can,” Manning said. Team members suited up in radiation gear and began a forensic analysis that would last several hours. It was part CSI, part hot-potato. “The steps that were taken there would have satisfied the requirements for US courts,” according to Manning and Varacalli. They looked for hairs and fibers on the tape and plastic baggies the smugglers used to wrap the powder. They checked for fingerprints. All the evidence was marked, sealed and logged. Finally, the team loaded the HEU into lead “pigs” – cast-metal encasements used to safely transport radioactive material. Some extra equipment was left behind for the Georgians. “It’s almost a training thing,” Manning said. “We can offer them and give them a little bit of the knowledge and expertise and equipment that we have.”

After eight hours at the government site, it was an armed convoy to the airport and wheels-up. The team spent no more than 36 hours on the ground. They flew directly to Savannah River National Laboratory, a Department of Energy nuclear site near Aiken, South Carolina, that now houses a joint FBI-DOE “radiological containment laboratory.” What happened to the material from there is something the government refuses to discuss with any specificity. A DOE official confirmed only that it was divided into two samples, the most significant of which was sent to Lawrence Livermore National Laboratory in California, part of the DOE’s National Nuclear Security Administration.

By examining impurities in the chemical mix, scientists can usually determine the exact nuclear facility where the HEU was enriched. The Russian FSB was given a couple of grams to make a parallel analysis. In an official communication to the Georgian government, the Russians confirmed the enrichment level, but claimed not to be able to tell whether it had originated in Russia. That may have been just for public consumption. “I’m sure the Russians and the Americans know where this material came from, and I’m sure they’ve had their ‘come to Jesus’ meetings and that everything has been done to secure the physical facility,” said Rose Gottemoeller, a former undersecretary for defense nuclear nonproliferation in the Department of

Energy who now heads the Carnegie Institute’s Moscow office. “But if you’re talking about the source as far as the marketing arm, or the circle of nuclear smugglers, then we cannot be sure that that will have been broken apart.”

*Oleg Khintsagov’s passport...show[s] multiple visits to Syria, and stamps of the United Arab Emirates and Saddam Hussein’s Iraq.*

Who was the insider on the Russian side with access to such large quantities of HEU? What specific storage facilities are involved (where it was made and where it was stored and stolen from are likely different)? How much more has been stolen from that site? How did the smugglers move the HEU through Russian and Georgian customs? Those were questions the four stuck smugglers in Tbilisi were still refusing to answer.

## Unsolved mysteries

Among Georgian prisons, which a senior US Embassy official summed up as “God-awful,” Prison Number 5 in central Tbilisi is among the worst. A red-brick monstrosity built some 200 years ago for military purposes, the prison’s 20-person group cells are currently packed with 70 prisoners each (the new government attacked corruption so enthusiastically, the head of prisons told me, that they’ve already doubled the prison population). Since the day they were arrested, Oleg, Vaja, Revas and Henry were among them.

Oleg Khintsagov, Vaja Chikhasvili and Revas Kurkumuli were charged with three counts of smuggling toxic poisonous, radioactive or explosive substances under various articles of the Criminal Code of Georgia. Henry Sujashvili faced only two counts. All four plead innocent. In June 2007, in an administrative building adjacent to Prison Number 5, a group trial of the four accused quietly commenced. The proceedings were closed to the media and outside observers, and attorneys were sworn to secrecy. The trial was treated as a matter of state security. As the offenses took place on the border, they were technically in the jurisdiction of the Kazbegi district, so a judge was shuttled down the mountain from the Kazbegi region to hear the case. Over the next three months, the four accused smugglers were given the opportunity to tell him their stories.

Oleg, apparently, told several. According to investigators and the deputy prosecutor, who provided hazy and sometimes conflicting details over several interviews in Tbilisi and later by phone, Oleg “partially plead guilty” during his initial interrogation, saying that he had traveled to Novosibirsk, Siberia’s largest city, where he purchased the material, which he understood to be radioactive, for \$10,000 from someone named “Rashid.” The location was compelling; Novosibirsk is home to a major facility that fabricates both LEU and HEU fuel, and has had thefts before. At the trial’s opening, however, the story changed, the prosecutor and investigators say. Now, Oleg was claiming that the material was some sort of “typographic oxide” for computer printers, and that he had stored it in his car for five or six years. Finally, according to the deputy prosecutor general, he told the court the substance wasn’t uranium but a common ore readily available in the mines near his village. “Maybe he was afraid something would happen to his family in Russia,” Pavlenishvili, the investigator, hypothesized. Or maybe he was afraid of spending his life in Prison Number 5.

Russia’s security service, the FSB, provided limited but compelling evidence during the investigation, and there are indications that it followed up on Oleg’s original claim to have gotten the material in Novosibirsk. The FSB report I obtained cites records of two air flights Oleg took in 2000 to cities nearby – from Moscow to Novokuznetsk in August and Moscow to Omsk in October. “Presumably the FSB would not have mentioned these if they did not think it was a realistic possibility that this is when he got the material,” Matthew Bunn, a Harvard University proliferation expert, wrote in an email. “That raises the obvious question of why he sat on it for five to six years before eventually getting busted trying to sell it...Or was he trying to sell it all that time, and finally talked to someone who informed on him only now?” The FSB report also contains the home addresses for Oleg and his cousin, the former customs officer with whom Oleg crossed the border, and one can only assume, given Oleg’s claim during the sting to have access to two to three kilograms more, that those homes would have been raided (the FSB declined several interview requests).

During the trial, the deputy prosecutor told me, Oleg personally cross-examined experts who testified to the chemical composition of the material, including an official from the US Department of Energy who traveled to Tbilisi to present the DOE lab’s findings. The defendant reportedly claimed that his brother had connections to a Russian lab and was having a sample of the same material analyzed to prove it wasn’t nuclear at all (though the brother never produced any lab results, Georgian officials said). “The main issue is that he is not an ordinary person,” the deputy prosecutor, Nona Tsotsoria, explained. “He seems quite

educated in physics.” The inference was that Oleg himself may have had inside connections. It was quite a different picture than that of a mundane trader investigators painted in my initial interviews.

Much about this case remains mysterious. After repeated requests for additional information about Oleg, Shota Utiashvili, chief analyst for the Ministry of Internal Affairs and one of my principal contacts, decided to go to Prison Number Five to meet Oleg himself. He reported back in emails and subsequent phone conversations that the prisoner surprised him. “He was self-confident, well-shaved, clean and spoke quite well,” Utiashvili told me. He said Oleg was polite throughout the interview. “That’s not like other prisoners behave,” Utiashvili said. “He doesn’t seem to be worried at all. I don’t understand it.”

It gets even more intriguing. Two weeks after my return from Tbilisi, Utiashvili emailed me scans of what he identified as pages from Oleg Khintsagov’s passport, which he says have also been made available to US intelligence. The stamps, many of which are overlapping, show multiple visits to Syria, with at least two entries in 2004 at Aleppo International Airport. Utiashvili identified additional stamps as those of the United Arab Emirates and pre-war Iraq (under Saddam’s regime). Certainly, the prospect of a nuclear smuggler with nefarious Middle East connections would be far more ominous than that of a low-grade foodstuffs trader moving a small bag of HEU for extra cash.

During his recent prison visit, Utiashvili says Oleg told him he had been contracted by an oil company and worked in the Kurna oil field in Iraq during the early 1990s. The convicted smuggler reportedly explained his travel to Syria and the UAE as part of an export enterprise in crystal glassware. As for the HEU, Oleg maintained that it was printer powder, continuing to deny any role in nuclear smuggling.

It’s very difficult to know what to make of the portrait of Oleg painted by Georgian Ministry of Internal Affairs investigators. The conditions of his interrogation, for one, are unclear. Under the old Georgian regime, torture at the hands of MIA interrogators was routinely cited by Human Rights Watch among a host of other violations. The new government under Saakashvili has been praised for making huge strides in combating corruption, but its human rights record has been mixed, according to rights groups. I requested interviews with the prisoners, traveling to the prison to be on hand if any of the prisoners agreed, but was told by the chief warden of Prison Number 5, who claimed to have asked them personally, that all had declined.

Oleg Khintsagov, Vaja Chikhasvili, Revas Kurkumuli and Henry Sujashvili were found guilty on all counts. Oleg was sentenced to the maximum eight years. Vaja and Revas got five years, and Henry four. Despite repeated requests, Georgian authorities provided little additional information about the case against Vaja, Revas and Henry, other than that they maintained their innocence throughout.

Archi Pavlenishvili’s undercover operative, the MIA man, is currently abroad on another mission: dressed as a wealthy businessman, speaking Turkish, and offering large quantities of cash to anyone with weapons-grade nuclear material for sale.

# KEY RESOURCES ON NUCLEAR THEFT AND SMUGGLING

Graham Allison, *Nuclear Terrorism: The Ultimate Preventable Catastrophe*. (New York, N.Y.: Henry Holt & Company, 2004).

A highly readable and alarming account of how terrorists might get and smuggle nuclear weapons and materials, and what might be done to stop them.

Matthew Bunn, *Securing the Bomb 2007* (Cambridge, Mass., and Washington, D.C.: Project on Managing the Atom, Harvard University, and Nuclear Threat Initiative, September 2007).

The most comprehensive, up-to-date account of what has been done to secure nuclear stockpiles around the world, with an action agenda for next steps. Full text and hundreds of pages of supporting information available at <http://www.nti.org/securingthebomb>.

Thomas B. Cochran, and Matthew G. McKinzie, "Detecting Nuclear Smuggling," *Scientific American*, Vol. 298, No. 4 (April 2008): pp. 98-104. <http://www.sciam.com/article.cfm?id=detecting-nuclear-smuggling>.

A readable account on why the passive detectors now being installed at U.S. borders and around the world are not likely to be able to detect HEU metal.

International Atomic Energy Agency, IAEA Illicit Trafficking Database (Vienna: IAEA, 2007).  
[http://www.iaea.org/NewsCenter/Features/RadSources/PDF/fact\\_figures2006.pdf](http://www.iaea.org/NewsCenter/Features/RadSources/PDF/fact_figures2006.pdf).

This is the 2007 release of the data on cases reported to the IAEA through 2006, with links to additional tables and information.

International Institute for Strategic Studies, "Illicit Trafficking in Radioactive Materials," chapter six in *Nuclear Black Markets: Pakistan, A.Q. Khan, and the Rise of Proliferation Networks; A Net Assessment* (London: IISS, 2007), pp. 119-138.

This chapter, written principally by Lyudmila Zaitseva, is the best publicly available overview of the patterns and trends in data on detected seizures of nuclear and radioactive materials – though no one knows how many more incidents may not have been detected.

Rensselaer Lee, "Nuclear Smuggling: Patterns and Responses," *Parameters: U.S. Army War College Quarterly* Vol. 33, No. 1 (Spring 2003): pp. 95-111. <http://www.carlisle.army.mil/usawc/Parameters/03spring/lee.pdf>.

A critique of "supply-control" approaches focused on security upgrades or border detectors, which advocates a "demand-side threat reduction policy" to identify and disrupt nuclear smuggling networks through "an international intelligence and law enforcement undertaking of unprecedented magnitude."

Michael Levi, *On Nuclear Terrorism*, (Cambridge, Mass.: Harvard University Press, 2007).

An account of the risk of nuclear terrorism that holds out substantial hope for interdicting nuclear smuggling as part of an overall system of defenses to reduce the risk.

William Potter and Elana Sokova, "Illicit Nuclear Trafficking in the NIS: What's New? What's True?" *Nonproliferation Review*, Vol. 9, No. 2 (Summer 2002): pp. 112-120.  
<http://cns.miis.edu/pubs/npr/vol09/92/92potsok.pdf>.

An excellent overview of what is known about the major confirmed cases of smuggling of plutonium and HEU, and what is *not* known.

# ABOUT PROJECT ON MANAGING THE ATOM

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## *Principal Investigators*

John Holdren, Director, Science, Technology and Public Policy Program

Henry Lee, Director, Environment and Natural Resources Program

Steven Miller, Director, International Security Program

## *Project Staff*

Matthew Bunn, Senior Research Associate

Neal Doyle, Program Coordinator

Martin Malin, Executive Director

Hui Zhang, Research Associate

Complementing these core staff members are a broad team of research fellows, including pre- and post-doctoral students and former senior government officials.

Please visit us at <http://www.managingtheatom.org> or contact us by e-mail at [atom@harvard.edu](mailto:atom@harvard.edu)

Project on Managing the Atom  
Belfer Center for Science and International Affairs  
Harvard Kennedy School of Government  
Harvard University  
79 John F. Kennedy Street, Mailbox 134  
Cambridge, MA 02138

