Conventional

By Robert MacManus

Footfalls in the Corridor

"Ladies and Gentlemen, the Wing Commander."

All 43 young officers in the pre-departure briefing room rose from their seats and snapped to attention.

"As you were," directed the Brigadier General as he walked into the room. The group commander—a full colonel—and the four operations squadron commanders—each a lieutenant colonel—trailed in behind him. The senior officers took their prescribed seats at the front of the room.

All 43 young officers sat back down.

"Good morning General, ladies and gentlemen," announced that morning's pre-departure briefing officer, himself a captain. "This is the pre-departure briefing for 22 August 2002. The overall classification of this briefing is 'Secret.' However, due to the nature of material discussed, the classification may be upgraded at a later time. Please ensure all pagers, cell phones, and radios are turned off. Roll call, please."

The lieutenant sitting at the first row of ten officers, himself the commander of his squadron command post, rose from his seat and snapped to attention. "319th all present, sir," he declared. The other commanders of squadron command posts followed suit:

"320th all present, sir."

"321st all present, sir."

"400th all present, sir."

As the flight commander of Tango Flight, 400th Missile Squadron, Captain Jones found himself in the remarkable position of occasionally leading the most powerful

combat squadron in the free world, possessing fifty of the most lethal weapons ever created in the history of all human kind.

The 400th Missile Squadron maintained and operated the Peacekeeper weapon system. The Peacekeeper, formerly known as the MX, was the ultimate evolution of the Intercontinental Ballistic Missile. Each Peacekeeper carried ten Mark 21C warheads. Each Peacekeeper had a range of over 7,000 nautical miles. Each Peacekeeper had an accuracy measured not in thousands of feet, or even hundreds of feet. No intercontinental weapon had ever been so deadly accurate. Designed specifically for the task of destroying hardened missile silos located in the far corners of the Russian frontier, each Peacekeeper was a very capable platform.

That day, two Peacekeeper missiles were in off-alert statues due to maintenance. That left 480 warheads at Captain Jones' fingertips.

Phlegm in the old man's throat

The Wing Commander typically visited two or three pre-departure briefings every week to give a few words of wisdom and show his face. He always took a few minutes at the end of the pre-departure briefing for just that purpose. Good commanders were supposed to appear highly visible to their troops. That day, however, he had a higher purpose in mind.

He cleared his throat before he continued.

"You may have noticed in the past few months the high number of re-entry system swap-outs, under the guise of maintenance, to replace warheads that are, in some cases, twenty years old."

He paused a moment to look for even a spark of suspicion in the eyes of the young officers. But for nearly all, this morning's briefing was still very much its mind-numbingly routine self. The general continued.

"But maintenance does not account for this year's high number of warhead replacements. What I'm about to tell you is not only classified 'Top Secret SIOP Extremely Sensitive Information Category Two,' but it cannot, and it will not, leave this room. Not even once the operation is over. Most of your fellow missileers have the same clearance as you, but only you here today have the need to know what is about to take place. Therefore, you will tell no one."

The general raised his voice slightly for his next sentence.

"Are we clear on this matter?"

The young officers were now quite aware of the general's tone as one meant to stimulate a standard and disciplined response. They rang out in unison:

"Yes sir!"

Drawing Strength from Machines

The old man had a moist look to his eyes which Jones had never noticed before. The General continued with his rehearsed speech.

"Over the past few months, twenty sorties in our wing have had their nuclear payloads replaced with conventional ones. This means they are now capable of striking tactical targets. These sorties are mostly in the 400th, due the Peacekeepers greater accuracy over the Minuteman, and also the fact that the Peacekeepers are due to be retired in a few years in accordance with the START II treaty. Six of our new conventional sorties however, are Minuteman sorties.

"The converted sorties have been in place and ready for tactical missions for several weeks, but not until today have the conditions been appropriate for their use."

He paused for a moment to study the faces of the young officers. He was surprised at how few of them looked puzzled. In fact, it seemed as if they were only just barely paying attention. But then, that was how they always looked.

"Two days ago, as you're no doubt aware, approximately 800 tanks and armored vehicles from Libya and Egypt, followed by close air support, rolled through the Sinai peninsula. They completely by-passed Israel and Palestine, and entered Syria, where they were joined by 325 Syrian Tanks and mechanized artillery. They continued past the border of Turkey where, early this morning, they were joined by 150 Iranian tanks.

"Currently they are continuing their rapid advance through Turkey, and their actions threaten not only our air base in Turkey, but the whole of Europe."

At this point, several slides appeared behind the general depicting the troop movements of the described force.

"Now, as you all know, the addendum to the War Powers Act passed by Congress last year prevents the President from mobilizing or engaging any US forces until we have been directly attacked. The Supreme Allied Commander Europe feels that by the time that happens, it may be too late to protect our European allies. Aside from minimal air defenses in Turkey and Western Europe, we have no forward deployed forces capable of engaging this massive armored movement. Neither of our deployed carrier task groups will be within range for several days. We have prepared eight B-2, 23 B-1B, and 84 B-52H bombers for immediate mobilization. But they won't be deployed until we're attacked, at which time they'll also be several days away.

"And there's something else. A mob of civilians and militia have formed behind the advance of armored vehicles. As of an hour ago we estimated their number to be nearly a million."

The General paused for a moment, as the magnitude of what he had said was finally beginning to sink into the heads of the young officers who, until today, had never seriously expected their combat skills to ever be employed in any war but other than a simulated one.

After a moment of sobering stillness, the Wing Commander continued.

"Ladies and Gentlemen, your are our first and last line of defense. You and your colleagues at our other missiles bases may yet have to fight, and it may be today.

"If there are no questions," at which point he paused and waited.

Just as the old man was about to dismiss them, Captain Jones' voice broke the silence. The Captain stood at attention.

A Mind of Caution

"General."

Everyone turned toward Jones, never sure of what to expect when he asked a question of the Wing Commander.

"What is it, Captain," replied the General, a hint of irritation in his voice.

Jones did his best to hide his nerves.

"Do you mean to say that we may be called upon to launch our missiles today?"

The General addressed him with a stern look. "A distinct possibility." Jones hesitated for only a moment.

"What about the Russians?" Jones inquired. "Surely they'll be alarmed when they notice ICBMs in flight, headed for their half of the world."

Jones remained standing, awaiting his answer.

"The Russians are no concern of yours, Captain," the General nearly snapped. "The Russians have been taken care of. Your are all dismissed."

The young officers stood from their chairs and snapped to attention as the senior officers filed out of the room.

A Rumor of War

Normally, as the young officers left the pre-departure briefing room to prepare for their departure into the field, they were filled with energy. Normally, they would

discuss the affairs of their lives. Complaints of work, analyses of sporting events, recollections of beautiful women and large quantities of alcoholic beverages, the kinds of things that interest young military people. But that morning was different.

That morning, no one said a word that wasn't required by their jobs. That morning, as they all filtered off to their respective offices to gather their effects before climbing into their blue, ten-year old, Chevy Suburban vans before embarking on the long drives into the off-beat gravel trails of Nebraska, Colorado, and Wyoming, they spoke not at all. Perhaps they were too afraid to accidentally breath a word of what they had just been told. Perhaps they were so shocked by the possibility of actually employing their deadly weapons that they were unable to expand their minds beyond the simple and clear-cut tasks that had been drilled into them through hundreds of hours of fighting simulated wars.

But Jones was neither afraid nor shocked. His mind had foreseen such a possibility. From the first day of his training he had accepted the possibility of fighting an ICBM war—even counting on it. Even while his peers had talked so casually about how their ultimate weapons would never—could never—be used. Jones had sat by listening, while some of his colleagues explained that they would never be called into combat. That is was, quite simply, impossible. All the while, though, Jones knew the day would come. And so here it was.

So as Jones stood near his car in the parking lot, waiting for his deputy commander to pull their Suburban around so that Jones could load his gear in and they could be on their way, he found himself wondering what the experience of combat would be like. As they drove North in I-25, he wondered what the sensation of turning his launch key, knowing that miles away his actions would bring the gargantuan missiles to life, stirring them from their decades-long slumber, to send them on their deadly journey, would be like.

To his own shock and slight resentment, he found himself looking forward to it.

A Sea of Brown Faces

If you were a young, angry Arabic living in Syria, you may have heard the rumbling of over a thousand diesel tanks and armored vehicles as they passed by your city. You may have noticed the excitement of the people as they fell in line with the waves upon waves following the tanks. You may have listened eagerly as those who had walked to your home from Libya or Egypt explained the great and noble purpose of such a caravan. You may have felt pride and admiration as they explained how they had walked the 800 miles, stopping as briefly as possible for food and rest, behind the great force assembled by God himself, to deliver vengeance on the infidels of the West.

It may have brought comfort to your ears to hear them echo your own views—to hear them explain, as you yourself had so often explained, how colonialism, the Cold War, and economic brutality of the West, had destroyed whatever chances your people ever had to become a developed, benevolent nation. How the treacherous, godless white men had raped your people and your land. How they forced unnatural borders on you. How they took your resources and sent in their armies when you tried to protect yourselves. How the Western infidels were to blame for all your peoples hardships.

You may just have joined them.

Breathless Anticipation

Captain Jones and his deputy, after driving the 92 miles to Tango Missile Alert Facility, broadcast their dispatch information to the Flight Security Controller, himself a young Senior Airman, over the radio, and were admitted onto the site.

They ordered their meals for the alert, collected clean linens, and received their flight status briefing regarding what maintenance and security teams were in the flight area. They gathered their bags and, after the current crew received a good Visitor

Control Number relayed through a hand-held encryption device over the direct-to-capsule phone line, they entered the elevator shaft, and made their way downstairs.

Tango Launch Control Center (LCC) was some 65 feet underground. Due to the slowness of the elevator, it took almost three minutes to fully descend. Once there, they opened the elevator shaft blast door—itself nearly three feet thick, ten feet tall, and weighing some ten tons—and brought their bags into the tunnel junction, which connects the LCC with the Launch Control Equipment Building, where all the support equipment such as the diesel generator and the environment control system was installed. They took the effects of the off-going crew—their bags, dirty linen, and dishes from breakfast, which had been placed in the tunnel junction before their arrival by the off-going crew so that the LCC would be clear of obstructions—back through the elevator shaft blast door and into the elevator. Jones' deputy swung the elevator shaft blast door closed, raised the door latch to hold the massive door in place, and turned the wheel which extended the door's giant pins into the wall, thus sealing the entire launch control facility off from the effects of near-miss nuclear detonations.

Jones noticed that the crew's door, the LCC blast door, itself shorter than the elevator shaft blast door, nearly five feet think and weighing some 8 1/2 tons, was still closed. While this was the correct procedure, it was considered rather rude. But it didn't really bother Jones, as he knew this crew and didn't really like them much.

Jones went into the equipment building and donned the headset hanging there in order to let crew know that he was about to begin the daily LCEB inspection, so they should expect the usual test alarms. Jones began his inspection.

All the while Jones could barely contain his anticipation. He saw no visible signs, though, that his deputy was having similar thoughts. The young 2nd Lieutenant was new to the base and had just recently been assigned to Jones. He seemed the perfect deputy. Prompt, efficient, very knowledgeable, Jones gave nothing but glowing

reviews of him to the other crew commanders, as it was customary to talk about the newest officers behind their backs. That was part of the initiation.

After completing their inspections, Jones pushed the call button to let the off-going crew know that he and his deputy were ready to enter the LCC. Jones heard the faint, rhythmic hissing noises of the pins being pumped into their retracted positions while he and his deputy waited just behind the yellow line on the floor that signified the swing distance of the massive LCC blast door.

"Stand Clear," shouted the off-going deputy as he slowly swung the door open.

"Clear," yelled Jones and his deputy in unison.

Secret Knowledge

The changeover routine proceeded exactly as it was supposed to, as it always had. Jones and his deputy first took inventory of all the classified material in the capsule. They received their alert status briefing from the off-going crew. Today Papa 03 was off-alert as its Missile Electronics Computer Assembly—the missile's main computer—was being removed and replaced. Also, Tango 09 was in calibration mode, a state where the missile's computer calculated its exact location in space in relation to its target so that it would know exactly where to go when ejected from the launch tube. Calibration placed the missile in a non-launch capable state for 18-24 hours. The rest of the missiles where in Strategic Alert mode, ready to launch at any time. Jones noted to himself that neither of the off-alert missiles were one of those converted to conventional warheads.

After the briefing, Jones and his deputy verified the Tamper Detection Indicators, reflective seals affixed to the critical pieces of equipment in the capsule to indicate any unauthorized access to those parts of the equipment containing the codes necessary to launch missiles.

Finally, the off-going crew opened the Sealed Authenticator System Container, the small red safe containing the launch keys and authenticator documents, so that Jones and his deputy could verify its contents. They placed their own locks on the SAS Container and secured it closed, signed for custody of ten missiles with ten mated reentry systems. Jones called the Wing Command Post to notify them that had they completed crew changeover.

Jones' deputy called for a new VCN, opened the blast door, and bid the off-going crew a good day. They inspected the equipment to ensure proper configuration, then settled down and—like they had so many times before—they waited.

That day, though, they were expecting something.

A Battle Belayed

Later that morning, the massive caravan, one-thousand, two-hundred, and seventy-seven tanks, followed immediately by 987,876 soldiers and civilians, kings and peasants, where within the air defense perimeter of Princirlik Air Base in Turkey. Twenty-four American F-15C fighters had been scrambled to intercept the 37 Mig-29, F-16C, and Su-27 fighters flown by the invading coalition. The American pilots had been instructed to make visual and radio contact with the invading aircraft, to provoke them as much as possible, but not to engage unless fired upon.

The Wing commander of Princirlik fully expected a hostile reaction from the Arabic aircraft. He expected to be attacked, which would have given him authority to unleash a formidable counter-attack against the air and ground forces encroaching upon the soil of an allied nation. He had 28 of his fully loaded F-16Cs sitting on the runway ready to do just that.

The American interceptors did exactly as they were instructed. They flew within meters of the inbound aircraft. They taunted them, they played chicken with them, they

even transmitted offensive and insulting statements to them in several languages—which they had been required to memorize—over all channels.

Perhaps it was the insight of their brilliant leader, who had realized that after so many centuries of internal squabble, the Arabic tribes would better solve their problems by uniting against the West. Perhaps it was the remarkable restraint of the Arabic pilots. Perhaps it was fear of the inevitable defeat at the hands of the better trained and equipped American pilots. Whatever the reason, a remarkable thing happened as the tanks, aircraft, and people approached, met, and then passed Princirlik Air Base.

Nothing.

Without so much as firing a single shot, or throwing a single stone, the remarkable assembly of Arabic solidarity left the American front line miles in the distance. The Americans, encumbered by its own isolationist laws, stood by powerless.

By early the next morning, after employing the expansive suspension bridge that represented the signal most sophisticated work of architecture in all of Turkey, they Crossed the Sea of Marmara and entered Greece.

Greece had no laws forbidding the repel of an invading force. So it was near the city of Sápai that the shooting started. A battalion of Greek Mechanized infantry had been mobilized to meet the invaders. The superior Greek anti-tanks weapons easily dispatched with fifty-two of the lead tanks. But they were soon overwhelmed by the sheer number of the invaders. After the tanks had driven through the Greek front line, the Arabic marchers followed, beating the Greek soldiers to death where they lay.

Within a matter of hours the Greek government declared a state of emergency and requested the assistance of her NATO allies.

The American president had his excuse. He ordered the USS Independence Carrier Task Force to move to its pre-planned position in the Ionian sea, and launch its strike aircraft as soon as possible. Of course, the carrier would not be on station for an-

other day. Even with aerial refueling, the bombers would take 14 hours to deliver their weapons. The Arabs would have to be slowed down.

Attention Waning

Lunch had come and gone, and still no word of the impeding call to arms. Captain Jones decided to take his normal sleep shift. He usually slept from one o'clock in the afternoon to nine o'clock in the evening, letting his deputy sleep from nine o'clock in the evening until six o'clock in the morning, giving Jones, as the commander, the prerogative of catching a few more hours sleep before the new crew arrived for changeover.

At 0532 a message over the Strategic Command Defense Information Network, a secure message printer that received and transmitted over ordinary phone lines, printed an encrypted message. Captain Jones determined the nature of the message and awoke his deputy.

The message directed them to a higher state of readiness and to prepare for an impending launch order. They unlocked the SAS container and retrieved its contents. They then closed their blast valves, to prevent them from being crushed by nuclear overpressure entering the capsule via their surface air ducts, and strapped down everything in the capsule that wasn't already hardened, to prevent debris from flying about the capsule in the event of seismic activity caused by near-miss nuclear detonations. Finally they sat at their respective consoles and strapped themselves into their chairs.

Seventeen minutes later, the anticipated order came through. They were instructed to retarget their conventional missiles and fire them as soon as possible. After verifying the authenticity of the order by opening a sealed authenticator document and inspecting its contents, they set about the work of retargeting the proper missiles.

Jones' deputy, using the keyboard-printer at his console—which was connected directly to the Weapon System Controller computer—entered in the Designated

Ground Zero coordinates included in the order, in the form of latitude-longitude-altitude. After giving the computer a few moments to verify that the data entered was within the operating capacity of the specified missiles, they transmitted the new targeting data out to the appropriate missiles and configured their own equipment to send a launch command. Twenty-three minutes after receiving the retargeting order, they were ready to fight the war.

Captain Jones had been considering the legality and morality of employing his missiles in the hours since they had been briefed by the wing commander. In fact he had lost most of his sleep shift to wrestling with the issue. He had come to the determination that such an order to employ conventional warheads against an invading armored force was both a legal and a moral one. He had faith in his superiors, that they had coordinated such actions with the Russians, and that there was no danger of a conventional war escalating into a nuclear one.

He rang the other LCCs on the hardened voice channel.

"This is Tango, are your configuration actions complete?" Jones inquired.

One by one, the other LCCs responded.

"Papa's good."

"Sierra's good."

"Quebec's good."

"Romeo's good."

They were all professionals. The war would not be delayed due to incompetence or inattention to detail.

"Continue, then, with step 13 of your checklist," Jones instructed before he hung up the phone.

Jones instructed his deputy to insert the Enable Code, as included in the order, to arm the appropriate missiles. His deputy entered the code into his thumbwheel switches on the enable panel and transmitted the code to the missiles.

Jones then entered the prepatory launch command—which would instruct the missiles to use the latest targeting data with the appropriate delay times—into his program control panel, and transmitted the command to the missiles. He observed his Missile Status Indicator Panel as, one by one, the missiles became armed and aligned themselves to their new targets.

These actions had become so engrained in the brains of the young officers that Jones was barely paying attention as he went though the steps on his checklist. His mind was consumed with the experience of war. He was genuinely surprised at how uneventful it all seemed. How, even at that moment, as he went through the motions of war, he felt no more exhilarated or depressed than any other time when he had taken these same action within the safe confines of the simulator during training exercises. It all seemed so very ordinary.

Once again he rang the other LCCs on the Hardened Voice Channel, as he watched the second hand of the clock approach the twelve o' clock position.

"Hands on Keys. On my mark. Three, two, one, mark."

Captain Jones turned his launch key, and that was that.

The Beast Awakened

After accepting two launch votes, from two different LCCs, Tango 06 stirred to life. It entered the Launch-in-Process mode and began its Terminal Countdown. Immediately the Inertial Measurement Unit, which controlled the missile's guidance system, entered the high power mode and the ground computer turned itself off. 0.02 Seconds later, the computer on-board the missile itself entered the Flight Mode. 11.07 Seconds after that, its Secure Code Device was armed, allowing the missile to fully integrate the half of the launch code it had permanently stored with the half of the launch code it had just received with the launch votes. 20 seconds into the Terminal Countdown, the missile's computer and its guidance system began talking to each other

in order to determine exactly what direction the missile should go once it was ejected from the launch tube. It took them 1.32 seconds to agree on a direction.

3.71 seconds after that, the air pressure holding Tango 06 in its daily position in the launch tube, which allowed it to absorb shock induced by the seismic activity of near-miss nuclear detonations, was bled off so that the missiles was slowly lowered until it rested directly atop the massive Gas Generator. By 30.8 seconds into the terminal countdown, the Gas Generator had generated enough steam pressure to not only fling the 110 ton blast door from off the top of the launch tube, but to thrust the 195,000 pound missile some 80 feet into the air.

After triggering the massive actuator next to the launch tube, some 36.8 seconds into the terminal countdown, the elephantine blast door was clear of the launch tube, and 1.12 seconds later, the missile was gone.

If at that moment you had been the cattleman rounding up his heard, which spent their autumn in the grass field directly adjacent to Tango 06, you may have noticed a very curious thing.

You may have noticed the enormous blast door seem to fly away from the launcher as it accelerated to 32 mph in six seconds. It might have occurred to you that, having such an obviously large momentum, the blast door would not quickly come to rest. It wouldn't have surprised you then to notice that the blast door easily sliced through the chain link fence surrounding the launcher and slid about six hundred yards along the ground before coming to rest in the field. It may have surprised, though, to notice the puff of steam emerge from the launcher, followed immediately by the gigantic missile, 92 inches in diameter, 79.6 feet tall, with its 44 shock isolator pads falling from its sides as it rose into the air.

It may have struck you as curious that the rocket had not yet ignited its stage one engine. You may have remarked to yourself that the missile must have in some way malfunctioned.

It would have greatly surprised you then to notice, as the missile seemed to hesitate for a brief moment some 80 feet above the ground, the brilliant flash of light as the stage one ignited. You may have been duly impressed as the missile, as though through sheer will alone, stabilized itself instantly and sped up and away on a perfectly linear path to the upper reaches of the atmosphere.

Finally, you would have noticed that, almost as soon as the whole commotion had started, the missile had completely disappeared from view, with only a dying rumble to indicate it had ever been in your presence.

Approximately three and a half minutes later, after raising to an altitude of 350,000 feet and accelerating to 23 times the speed of sounds, Tango 06's stage one engine burnt out, handed off to stage two, and fell away into the Arctic ocean. Stage two burnt for an additional two minutes, accelerating Tango 06 to 27 times the speed of sound and boosting it to an altitude of 750,000 feet, at which point a small tractor motor located in the very tip of the nose cone ignited, pulling the protective shroud away with it and exposing the ten warheads to the vacuum of space. Stage three then ignited and boosted the upper stage to an altitude of 900,000 feet and a speed of 28 times the speed of sound.

At this point, the missile's computer, nestled in the fourth stage directly below the warhead platform known as the "bus," had a tricky task. This was the result of not being able to control the burn duration of the first three stages of the missile, since those stages used solid fuel. The small forth stage engine used a reserve of liquid fuel, giving it the ability to start and stop on demand.

But the computer had been designed to know exactly how to handle just such a situation and was on top of things well before they could become a problem. The computer had realized for several minutes that, if it proceeded on its current flight path, the warheads of Tango 06 would overshoot their target by several hundred miles. It decided, then, to boost itself to a slightly higher altitude until it began its reentry sequence. This would lengthen its total trip by the necessary several hundred miles, putting the warheads directly on target.

It was a very good decision.

Encased in the computer assembly was the softball-sized Inertial Measurement Unit, which consisted of a small ball suspended in a vicious fluid. The IMU used tiny, low-power lasers to measure changes in the ball's position—as a result of acceleration in any direction—down to the micron. As a result, the IMU knew exactly where it was in time and space, without any outside reference. So when the computer determined that it was where it needed to be for gravity to take over and pull its warheads to earth, it released them. If Tango 06 had been capable of feeling anything akin to satisfaction, and considering just how complex a machine it was, it would have felt very satisfied indeed when it felt the warheads fall away on a straight-line collision course with its targets. Tango 06 knew quite well that the targets didn't stand a chance.

First to go, since it was located directly in the center of the bus, warhead Tango 06-03 began its fall to Earth. Followed shortly by Tango 06-02, Tango 06-01, Tango 06-07, Tango 06-10, Tango 06-06, Tango 06-09, Tango 06-05, Tango 06-08, and Tango 06-04.

After the ten warheads were released, following the logic which assumed that—even without explosives—a three-thousand pound chunk of metal traveling at hyper-mach speeds would still damage *something*, the bus gave one final shot of propellant and went in after them.

Since the targets were at so low a latitude, Tango 06-03 came in at a rather steep reentry angle of 32.0 degrees. It had no guidance capability whatsoever, and relied

completely on gravity and the precision of its release point from the bus to find its target. When it first encountered any substantive atmosphere, roughly 80 miles above and to the northwest of its intended target, it was traveling at roughly 28 times the speed of sound. It was at that point that the warhead activated its solid state radar which would tell it its altitude over the target so that it would know would know exactly when to detonate. When it encountered the thick layer of air that supports all life on Earth, it was roughly fifteen miles above and to the northwest of its target. Due to the tremendous amount of wind resistance at that point, it began to slow rapidly, the force of its deceleration being roughly 150 times the pull of Earth's gravity.

If you where at ground zero at night, you might have noticed Tango 06-03's approach by the brilliant light produced as its ablative shielding burnt up and flaked away, carrying with it the deadly heat of intense air resistance.

But as it was daylight over the target, so those present noticed no sign, no warning of Tango 06-03's descent. By the time Tango 06-03 reached its detonation point, roughly 600 feet above the Earth, it had slowed to 17 times the speed of sound, and no noise hailed its arrival.

Upon detonation, the force of 1,832 pounds of high explosive, combined with the intense speed, pulverized everything that was on the ground directly below the detonation point, roughly the area of four square city blocks, which at that moment happened to be occupied by a group of 28 tanks some 100 yards behind the lead tank. To the observers, the tanks seemed to be instantly replaced by a wall of dirt. When the wall of dirt fell back to Earth, it revealed a crater 25 feet deep, and not a trace of the tanks that had been there only a moment ago.

This remarkable event had the effect stopping the entire caravan dead in its tracks with surprise and confusion. But before they could even contemplate the moment, Tango 06-02 appeared, doing similar damage to a group of 13 armored personal

carriers only a few tens of feet behind the crater created by Tango 06-03. And Tango 06-02 was followed immediately by the rest of Tango 06's warheads, and it's bus.

Only a few seconds passed by before the warheads of the rest of the Peacekeepers arrived. In an instant there appeared the components of Tango 02, Papa 04, Romeo 07, Quebec 11, and the rest. And then, in a slightly less dramatic fashion due to a shallower reenty angle, the three warheads each from the Minuteman IIIs appeared. There was Mike 03, and Golf 09. Lima 05 and Bravo 08. Oscar 02 and Charlie 10. For 11 minutes they rained down on the uncomprehending Arabic caravan, and when they ceased to fall, there was only a fading echo of thunder and a lingering dust cloud which obscured everything viewable.

In all, 635 of the tanks and armored vehicle were destroyed, along with two Mig-29 aircraft that had the misfortune of being directly in the flight path of incoming warheads. Some of the warheads had predictably strayed behind their targets, due to the relative inaccuracy of the Minuteman III guidance package which used spinning gyros to determine inertial reference. Twelve of the warheads detonated directly over the marching masses trailing along behind the tanks. Each blast there instantly crushed thousands, and produced enough shrapnel and blast to knock down and wound thousands more.

The caravan had stopped. The President had bought the time he wanted to position his other forces. The missiles had worked.

Nothing Unnoticed

A curious thing happens when large numbers of rockets are flown across the Earth. People tend to notice. That day the Russians noticed the many ICBMs, flying from their previously nuclear-dedicated hardened launch facilities of the American plains states. The Pentagon had taken appropriate precautions to ensure that these missiles would not be misinterpreted as an act of nuclear war against Russia. The

Chairman of the Joint Chiefs of Staff had personally contacted the Commander in Chief of the Russian Strategic Rocket Forces and had given him the approximate flight profiles of the designated sorties along with his personal guarantee that Russia would not be affected by these operations.

While the Russian General was not entirely comfortable with the idea of American missiles over-flying his country, he certainly wasn't interested in a global nuclear war. So he passed along the information to his top missile commanders and ordered them not to respond to the American missiles unless Russia itself was directly attacked. Most of his generals followed his instructions to the letter. A few of them, however, did not.

The problem was one of divided loyalty. At that point in the history of the internal affairs of Russia, things were very unstable. The President of Russia, a democratic reformist who had the support of the developed Western nations, still commanded the loyalty of most of the old Soviet military. A few of the top generals, however, considered themselves loyal to the leader of the nationalist party, who controlled a quarter of the parliamentary seats and who represented the old ways and the old values. A few other of the generals lent their loyalties to the large and powerful criminal organizations, who had as much influence over daily Russian life as any government agency or party.

Today, though, the problem was with the political reactionaries. The nationalist party refused to by tyrannized by the Americans any longer. They had not yet given up the old Soviet dreams of global domination. As a result, certain powerful members of the party believed they might be able to take the nuclear initiative and reduce the Americans to a non-player on the world stage.

That day, certain elements of the message sent to a select few of the Russian early warning units, to inform them that the American missile launches was not to be responded to, were left out.

While the American early warning satellites—hovering in geostationary orbit—look directly down to notice the exact nature of a missile launch by comparing the infrared heat signature of a missile's engines to known profiles, the Russian early warning satellites, being not as technologically sophisticated, watch the horizon from their low orbits so that they might spot the exhaust trail of a missile against the blackness of space, thus allowing them to approximate its heading. As a result, the Russian early warning satellites tend to leave more room for interpretation concerning where a suspected nuclear warhead is going to fall to earth.

So when a few dozen rocket exhaust trails were spotted heading from the Western hemisphere to the Eastern, the operators of the satellite monitoring equipment checked that day's orders very closely. It mentioned there might be an American missile launch that day and that they should respond to it normally. They therefore followed their standard procedure, which instructed them to immediately notify the regional command post.

That day the regional command post happened to be under the command of a general who placed his loyalty with the nationalist party. Citing the urgent letter he had just received warning of an incoming American nuclear attack, the regional commander ordered an immediate counter-strike against American hardened targets, namely American missile silos, which he was certain would soon be used to destroy his own hardened missile silos.

While an order to launch nuclear missiles would normally have to be given and verified by the Russian president and the Russian Chief of Staff, the dire financial state of the Russian military had meant that the communications links between the regional commanders and the Kremlin were not reliable. As a result, one year earlier the Strategic Rocket Forces had instituted a new policy—signed by the president and approved by the Parliament—designed to guarantee the credibility of the Russian

nuclear deterrant. In the event of nuclear attack if the President could not be reached, the regional commanders had the authority to order whatever response was necessary.

Within 12 minutes of initial detection, 83 SS-18 missiles, each carrying ten high-yield thermonuclear warheads, were on their way to the American missile fields.

We All Fall Down

Captain Jones was uncertain what would happen, or how he would feel, after he had sent his conventionally-armed missiles off to fight a new war. As it happened, he felt no emotional extremes of any kind. It had all gone so smoothly, without so much as a single hitch, exactly as the incident had been trained to him. Very routine.

They had not yet received any kind of order to stand down from their higher state of readiness, so Jones and his deputy just sat there. The closed out their checklists and transmitted their reports. All was as it should have been.

Jones began thinking that his relief crew would be arriving in about an hour, and that he should start preparing for the crew changeover. His changeover preparation required such actions as updating his status panel, purging the expired dispatch reports, vacuuming the floor. Housekeeping.

It was at about that time that the American early warning satellites noticed the sudden and unexpected launches of so many SS-18s from their hardened silos. Before any human could respond, the download station's computer at Buckley Air National Guard base in Denver sent an electronic launch report to the monitoring computer at the space warning center deep inside Cheyenne Mountain near Colorado Springs. The computer inside the mountain, having instantly realized the gravity of the report, sent an urgent warning to the Brigadier General who was currently sitting in front of the big board, serving as the watch commander.

The general, having had his attention spurred by the deafening klaxon that accompanied the warning, scanned it quickly and, having realized its importance, picked

up the red phone on his desk which gave him a direct connection to the Joint Chiefs of Staff command center in the Pentagon.

Thirty-five seconds later, a clerk answered the phone.

The general explained the importance of the situation and, nearly a minute later, was speaking to the President and the Chief of Naval Operations on a conference line. The President happened to be aboard Air Force one, and was therefore safe from attack. The Chief of Naval Operations was at the Pentagon's alternate command center buried deep under Maryland. Also on the line was the Commander of US Strategic Command at Offut Air Force Base near Omaha.

After discussing their options for several minutes, the President ordered a retaliation to be launched as soon as the in-coming warheads were confirmed on the early warning radars located around the periphery of North America.

The Russian warheads behaved exactly as the American warheads had, only not quite as accurate. Of course the Russian warheads were of much higher yield than the American warheads, so they would still have no problem pounding the American missile silos into nothingness. As they reentered the atmosphere over America, their ablative shielding burned up and flaked away, creating a very distinctive blip on each of the early warning radars pointed in its direction. A blip so distinctive that it could be interpreted as nothing else than an incoming nuclear warhead.

The radar computer reports were as automated as those of the satellite monitoring stations, and within a few moments the watch commander in Cheyenne Mountain was staring at a confirmation report and cringing at its accompanying klaxon.

He picked up the phone that connected him with Omaha.

The Commander of US Strategic Command had only to nod his head for the message officer to know what he meant. The message officer reached down to his key-

board and pushed the auto-transmit key, which instantly sent the pre-formatted launch order, directing a strike against the remaining Russian missile silos, to all LCCs.

The alarm went off and Captain Jones looked to his printer. He already knew, though, what the message was.

Jones did have his concerns about the Russians, but he took his Wing Commander's word when he said the Russians were of no concern. So now he had no choice but to take his word again as the launch order rolled out his printer.

Jones and his deputy decoded the message and took their actions. Jones aligned his missiles to the appropriate targets, he observed his deputy as he entered the enable code into his panel and transmitted it to the missiles and then ring the two maintenance teams in the flight area, via the direct phone lines, to evacuate the missile silos. Jones rang the other capsules on the Hardened Voice Channel.

Even though the missiles he was about to launch would wreak much more havoc on the world than the missiles he had launched only a few minutes ago, Jones felt even emptier. There was only one slight nagging thought in his mind.

"Hands on keys. On my mark," and there Captain Jones hesitated for a moment.

Maybe he didn't have to kill twenty million people. He could order his men not to turn their keys, although he suspected they probably would attempt to launch without him and if only two capsules agreed, that would be enough. Or perhaps he could just reach over to his program control panel and send all the missiles into calibration mode, making them incapable of launch for at least eighteen hours.

Captain Jones thought about his beautiful young bride. Her name was Christine and she was an elementary school teacher. She was completely supportive of her husband's career. She never complained about the eight nights a month when her husband was out in the field and couldn't come home. And she never complained

about the long hours her husband spent in the office pouring over matters too secret to discuss with her. She was a loving wife, and she was six months pregnant.

But then a thought occurred to Jones. What if his Wing Commander was right all along. Perhaps the Russians were about to launch their missiles. In this case only a pre-emptive strike would stop a global war. Or perhaps this was one of those no-notice exercises where they had secretly inhibited the missiles beforehand. In this case, if he failed to respond appropriately he would surely be drummed out of the Air Force.

In either case, he was in no position to judge the strategic situation, and so had no choice but to trust his superiors, to have faith in the system.

That day he would be the good soldier.

"Three, two, one, mark."

Lieutenant Jones turned his key, and that was that.