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The MAD Syndrome

(for Mutually Assured Destruction)

Abstract

Will we face a new world war? It sounds like a scare episode from Project Fear, and it is played in a loop on television. We cannot predict the world's fate by merely looking into a crystal ball, no more than my grandfather could in 1914 and my father in 1939. Before history, who will put himself on the line, which he feels it takes to achieve immortality, be it good or evil. Who will this time stand accused of dereliction of duty? Who will be held responsible for what could turn into the final calamity of mankind? Be hostis humani generis - the enemy of all Mankind.

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The MAD Syndrome

“Chance and uncertainty are two of the most common and most important elements in warfare.”

Carl von Clausewitz, On War, 1832, 6. August 1945. 00:29 hours.

A large, silver-gray B-29 Superfortress, of the 20th United States Air Fleet, rumbles down the runway of Tinian Atoll in the Pacific. This aircraft, bearing the number 82 in a circle on the tailfin, has been modified to carry a single load. One hundred and fifty miles from Japan’s shores, its pilot, US Air Force Colonel Paul W. Tibbets, opens the sealed envelope.

“DELIVER THE SPECIAL WEAPON TO A TARGET DEPENDING ON WEATHER CONDITIONS. TO BE DROPPED ON ONE OF THESE TARGETS:

HIROSHIMA – KOKURA - NIIGATA – NAGASAKI.”

At 07:42 hours, while cruising over the Pacific, he receives a radio signal from the meteorological observer in a scout plane, flying 100 miles ahead of his B-29, checking the weather conditions over the four targets. Three are covered, one is clear. Paul Tibbets climbs to 31,000 feet and swings the plane onto his appointment with history.

“CLOUD COVER LESS THAN THREE-TENTHS. BOMB PRIMARY.”

PRIMARY is a city called Hiroshima.

At 08:15 the bomb doors of the Superfortress open and the world will never be the same. "The city was hidden by that awful cloud, boiling up, mushrooming, terrible and incredibly tall..." (Tibbets)

If only we had gained wisdom from the all-devouring fire. But man is what he is.

“...a minute after the last explosion, over half of the world’s human beings will have died, the dust and smoke of continents in flames will destroy the sun and absolute shadows will reign over the earth again... in the final chaos of an eternal night, the only vestige of what was once life will be the cockroaches...”1) reign over the earth again... in the final chaos of an eternal night, the only vestige of what was once life will be the cockroaches...”

Today nine nations sit on 15,000 nuclear warheads and sundry hi-tech weaponry. Each of these nine is led by a fallible human, capable of making a mistake that could end the world as we know it. The President of the United States, and only himself, is able to launch nuclear weapons within four minutes of his command – and no one can overrule him! With Donald Trump in Washington, and Kim Jong Un in Pyongyang, the world has to worry.

.... And yet, all it takes is one miscalculation – an error in interpretation by a single soldier -- to plunge the world into a nuclear nightmare. Let us imagine a North Korean surface-to-air missile operator detects on his radar a U.S. B-1B bomber approaching his nation’s airspace. This soldier, after having been brainwashed throughout years with anti-American propaganda, thinks his country at risk. Or more likely, panic sets in...he thinks death is coming at him. Fear is a potent stimulant, it takes hold of him - and he has only seconds to react ...it makes him act... Kim knows America will retaliate...a US president’s adviser think the North Korean will act with a pre-emptive strike...

Like a rampaging forest fire, set off by a cigarette thrown out of a car window, a nuclear war with North Korea could be triggered by a single slip. Wars sometimes start that way, especially in situations like the present, with mistrust, misunderstanding, and inflexible posturing. The combustible tinder (read: verbal insults) is ready to burst into flame.

A prime example is World War I, a global conflict set off by an error... had the chauffeur of the automobile carrying Austrian Archduke Franz Ferdinand not made a wrong turn into a side street, and realizing his mistake, the arch duke’s car would have never stopped in front of an assassin who happened to be standing on the corner, with a cocked gun in his fist.

What if, we may well ask... perhaps the continent-convulsing clash among world powers might have never taken place? Could another car’s (or plane’s) wrong turn transform the mudslinging between two volatile characters, both with an immense ego-trip, into an all-ending conflict? (And this is without factoring in nuclear terrorism, which adds a scary new dimension. A country with nuclear weapons and a terrorist presence could also trigger a nuclear war.) These villains bury more than people, they bury a way of life. Words like our history have lost their meaning.

The world we grew up in is gone. Such is the perilous situation today as mankind stumbles towards an uncertain future. Two sides face each other like threatening school children; each sitting on weapons with which to kill millions, hoping they will never have to step towards the ultimate. Their hopes are based on different rationales. Kim’s aim is to force America to stand aside and allow a piecemeal annexation of the South Korea into his Northern Kingdom. One race, one common language. Remember “Heim ins Reich!” Who stood up and stopped Hitler from annexing Austria?

Facing an unstable Kim is a US President, who wants to prove toughness to his constituents; their votes are vital to keeping his seat in the Oval Office. With his blustering rhetoric Donald Trump thinks that he can silence the North Korean, or achieve victory by using the non-nuclear arsenal available to his generals. Perhaps he can, and perhaps the North Koreans bomb Seoul or San Francisco before he does.

The danger is, someone comes up to the red line and never sees it. He steps over the line. When launching test missiles across Japan, North Korea doesn't know how far it can go in its provocation, before it will trigger a response.

"...in every state, weak in the face of a war of obvious annihilation, it is the duty of sensible men to undertake the inevitable battle at the most favorable moment." (Sun Tzu)

The Hiroshima Peace Memorial Museum is today's most visited and honored site for Japan's young generation. It reminds them of the horrors of a nuclear attack. Japan knows it might be the first victim in case of another disastrous push-button war. It has already lived through one nuclear attack. Not many have survived to tell their story.

"I saw a red fireball with an ash cloud shoot into the air above the city center, when a blast of dirty hot air knocked me to the ground...when I woke up, the coldest dread came upon me..."

... there's no use talking of a Black Zone, the impact circle. It is flat. Vaporized. In the next circle, they call it a Red Zone, first comes the flash, its blinding light popping eyes, before the shock wave hits without warning; then a deep silence from the shattering explosion which is too brutal to absorb by a human ear. After an eternity, and the dust settles, it reveals a vista of unspeakable horror. That is, if there are still survivors that haven't been flash-blinded, burn-radiated, or lying half-crushed under blocks of smashed concrete. All buildings have come down in the Red Zone. Those of the survivors, further away from the blast, as if it were an Orange Zone, with their clothes stripped off by the heat, the skin on their naked bodies blisters, breaks out in slimy black rash. They are struck by convulsions, empty their bodies in unstoppable diarrhea. They lie down to die.

"My city has ceased to exist. Dead Zone."

The world must understand that in a nuclear conflict millions will perish. Initially it is shock and trauma. But that is not where it ends. An atomic bomb destroys everything. Physiological shock effect brings on disorientation and chronic stress, depression and pervasive fears. Ground level radiation leads to a total breakdown in agricultural products. Lethal rays pollute the water, kill the fish, poison the soil and make it impossible to grow food. Malnutrition leads to hunger. Radiation sickness makes immune-system protection fail. Epidemics break out; dysentery is rampant. Millions more perish. Economic chaos and famines lead to fratricidal wars, martial laws to mass executions. And that's only the beginning...

To believe that war can be endured and survived is to allow oneself getting embroiled in the slaughter. It is not the destruction, which counts, but the lives that are cruelly wasted. The larger the bomb, the more profound the wrong.

The annihilation specter should be enough to dissuade an American president. Not this one. Donald Trump's volcanic rhetoric is outright reckless. He is bombastic and arrogant. It addresses his voter base that thrives on fear. His derisive description of "Kim the Rocket Man" in his address to the U.N. General Assembly only heightened the crisis. Perhaps President Trump will follow it up with yet another twitter message: "I'm gonna zap you fuckers back into the Stone Age..." The present US administration needs a message discipline. Twittering presidential threats, repeated to the press by the White House spokesperson, doesn't serve any purpose. Not with characters like Kim Jong-un. That said, the North Korean surely must know that a missile fired in anger would mean the end of him, his regime, his country. Perhaps also the world we love.

Looking across the historical record, accidental wars are rare. If two countries really want to avoid conflict, they generally find ways to do so. In the days of the Cold War, the United States and Soviet Union repeatedly approached the brink of MAD for mutually assured destruction, only to step back just in time. An example is Soviet leader Nikita Khrushchev's decision to remove Russian missiles from Cuba, which was matched by President Kennedy's willingness to pull American missiles from Turkey. With North Korea, the United States repeatedly has refrained from responding to direct and egregious acts. In 1968, North Korea seized a US naval vessel and tortured the crew. A year later, they shot down a US observation plane over international waters.

At 9:22 p.m. on 26 March 2010, the ROK Navy corvette Cheonan sank in the Yellow Sea just south of the disputed Northern Limit Line after an explosion in the ship's stern ripped it in two. This act, if done by North Korea, would constitute an entirely different level of hostility. The last act of this magnitude involving losses of life occurred in November 1987 when North Korean terrorists blew up a South Korean airliner (KAL 858), killing 115 passengers and crew over the Andaman Sea. These acts are considered as coercive diplomacy trying to force the nonengagement-inclined ROK government into negotiations in which North Korea could extract aid and assistance.

All these incidents have been met with harsh verbal condemnation but limited reprisal. Presidents, from Lyndon Johnson to Barak Obama, have swallowed hard to ensure peace in the region. Not any longer. Donald Trump's lack of strategic vision tells about his ineptitude as a world leader. His outbursts carry no impact. Enemies, just as allies have learned not to take the man's tweets at face value. The United States Executive must develop a formula of strategy based on dialogue and control, and that requires a lot of imagination and complexity.

For incidents - may we call them accidents - to actually become wars, nations need to play along. This also explains why a lot of the wars we tend to think of mishaps weren't really accidents. In a pretense to invade Poland, Hitler ordered some KZ inmates dressed up in Polish uniforms and shot as invaders

of a German border town radio station. The Gulf of Tonkin Incident was exaggerated to generate an American nation-wide support for war with North Vietnam. If countries want to go to war, triggers are easy to fabricate. However with a great amount of good will, it is possible to defuse the most incendiary incidents. There are exceptions to the general rule. Sometimes, even nations hoping to avoid wars end up by starting them. The riskiest moments are those like what we're seeing right now - when dictators and their courtiers, presidents and politicians feel obliged to stand behind their tough paroles. Today, if the heated oratory should produce an incident, the question might be whether President Trump can lose face and back down, as other presidents have done in dignity, in order to prevent open conflict.

The constellation for disaster is in place. On one side, a US president who thinks himself Lord of the Universe, surrounded by be-medalled generals who follow their master's voice, and plan WW 3. And across the global poker table sits a dictator who has declared himself God, like his grandfather Kim Il Sung, the founder of the Kim dynasty. Kim runs his family-owned country by his momentary whim. Even that could be forgiven, had he not the toys to play atomic roulette.

Surprise and Response

At 04:00 hours on 25 June 1950, a devastating artillery and heavy mortar barrage by 1,634 guns slammed into South Korean and American border posts south of the 38th Parallel. Within hours, heavily armored North Korean spearheads penetrated deep into South Korea. Kim Il Sung, communist ruler of North Korea, went on the air with a proclamation:

"The South Korean puppet clique has rejected all methods for peaceful reunification proposed by the Democratic People's Republic of Korea..."

SOUTH KOREA INVADED...the news of a new war in Asia raced around the globe.

The Northern attack across the demarcation line between North and South had been masked by a skillful deception plan. Their tactical and strategic surprise was total.

Surprise is one of the paramount principles of warfare. Surprise throws the enemy off balance, forces him to improvise, and spreads chaos and confusion. Surprise is obtained through secrecy and deception. But surprise-as-in-final-victory can suffer from self-deception by a faulty evaluation of the final aim. Surprise comes with a time limit. Once the attacked reacts, takes a stand and retaliates, the surprise factor is cancelled out. Hitler's Blitzkrieg on Russia and the Japanese attack on Pearl Harbor are two prime examples; they both ended in a total defeat of the aggressor.

Examples of strategic surprise stem from the disciplined secrecy in a totalitarian state. In the event of a ground attack from the North, pushing its vast conventional army across the North-South

demarcation line, the advantage of surprise lies entirely with North Korea. American military doctrine depends on measured, flexible response. Should this Northern attack not be successfully stopped before it reaches the South's capital, a choice would have to be made to either let the attack succeed, and thus bring a major portion of South Korea and its people under Kim's rule, or whether a selective and measured employment of nuclear weapons must be authorized. The reason this may be unavoidable in the existing balance of forces. The combined South Korean and American forces in place along the demarcation line are not nearly strong enough to halt a surprise attack by one of the largest terrestrial armies in the world.²⁾ However a political decision to release the nukes would need time, and for that it might be too late. If, on the other hand, there is a reasonable chance that the combined defensive Southern forces can hold the onslaught, and slow up a conventional ground attack, then the necessity to be the first to use the bomb for a breakthrough would clearly land with Kim Jong-un. That is a valid argument for Kim's stand-down. Invoking an American nuclear response would mean the annihilation of North Korea, an appalling fallout disaster to South Korea, to China, parts of Russian Siberia, and perhaps even mainland America.

The use of thermonuclear medium and long-range strategic missiles is the most devastating and rapid form of instant attack open to any nuclear power, with a pre-emptive strike as only defense for its victim. Americans believe that all-out nuclear war is mutually catastrophic and that there can be no winner. Thus war has ceased to be the rational end of policy. Clausewitz' dictum, "war as the continuation of politics by other means", does no longer apply. North Korea's doctrine emphatically asserts that a nuclear strike would not be suicidal for a country better prepared. That despite suffering retaliation, North Korea would survive and win the war. Kim Jong-un trumpets this mad claim in his speeches. Until now, it could be said that strategy, and especially nuclear strategy, is a compromise of what a general wants and a politician permits. In this case, the world is dealing with a 33 year old, hot-headed leader. His vision enhances the possibility of surprise.

During the wars of the past, extended times were allotted for mobilization to bring the great mass of troops into a state of readiness. The speed of missiles and supersonic aircraft has compressed this preparation time into minutes. A country in danger of a surprise attack must therefore be in permanent state of readiness. Nuclear warfare grants no time for mobilization. An inflexible nuclear response, with weapons deployed and the authority for their use pre-delegated to local commanders, is called for. Such drastic measure must leave a suicidal madman in no doubt that his intended target has the means, and certainly the will to defeat any adventure. Or the night will come from which there is no awakening.

The Ultimate Deterrent

Uranium was named after planet Uranus and Plutonium after Pluto. PU-239, the most powerful isotope, has a half-life of 24,000 years; which means, nothing can be planted on a poisoned soil for 50,000 years. It sends mankind back into the days of the Neanderthal Man.

Atom bombs, the common name for fission bombs (the Hiroshima bomb of enriched uranium-235, or the plutonium-239 bomb of Nagasaki3)) are today's core weapons of secondary nuclearized nations, such as Pakistan, Iran and North Korea. (No use mentioning Israel - after all, Jewish physicists built bombs for everybody). At the opposite end of the minor arsenals are the super-powers with their multi-stage thermonuclear weapons, also called hydrogen bombs. (The mightiest bomb of all was the Soviet Union's Tsar Bomba, tested on 30 October 1961. The Soviets called their monster Kruzma's mat, Khrushchev's mother. Its fireball was 8 km in diameter! Its mushroom cloud rose 64 km into the sky! And its yield of 50 megatons of TNT was ten-times that of all the explosives of WW2!). Today, only the five members of this select nuclear club - US, Russia, China, France and UK- are capable to produce this type of multi-megaton destruction.

As part of America's nuclear triad (missile - bomber - submarine), the US deploys 100 nuclear-capable bombers (B-2s and B-52s), 400 Minuteman III ICBMs, and a dozen Ohio-class ballistic missile nuclear submarines, armed with Trident II submarine-launched ballistic missiles, which are an improvement over their land-launched rockets. The most lethal US weapon is the B83 with its 1,200 kilotons (1,200,000 tons of TNT). Its destructive power leaves not a modicum of chance for survival. Now something new has been added to nuclear warfare. It's called the B61-12 bomb. With its destructive power of 50 kilotons (50,000 tons of TNT), it relies on dead accuracy. Thereby it carries the same effect on lethality as making a rocket warhead eight times as powerful. Accuracy is the determining factor of a nuclear weapon's lethality - it lowers the yield needed to destroy a specific target. Under certain circumstances, such a modern-design fission bomb, weighing around 1,100 kg, can be launched without fearing the indiscriminate killing of civilians through explosive force or radioactive fallout. In between fission and fusion bomb is the booster bomb, which uses a relatively small fission device to set off one or more nuclear chain reactions (deuterium and gaseous tritium). In the summer of 2017, North Korea tested this type of bomb and called it a "hydrogen bomb". Which it is probably not. But even a booster bomb can take down a city. Depending on population density, the instant casualty rate would be in the hundreds of thousands. In a mega-city it would be in the millions.4)

In 1961, the French geo-strategist, General Pierre Marie Gallois wrote in his treatise *The Balance of Terror: Strategy for the Nuclear Age*, that possessing a nuclear arsenal ensured deterrence and will lead to an increase in international stability. His prediction proved right: the specter of the bomb

stopped all possible wars involving the nuclear super-powers. Ironically, the Americans called their standard nuclear-tipped missile “the Peacekeeper”. The world is aware that invoking a nuclear response would end in an appalling disaster.

The Democratic People’s Republic of Korea’s Nuclear Godfathers

There is no way around it: North Korea has become a nuclear power. A minor power; but there is no such thing as a mouse-that-roared when it comes to nuclear blackmail.

North Korea sits on deposits containing an estimated 4 million tons of high-grade uranium ore. Its enrichment production depends on an existent 5 Megawatt test reactor at Pyongyon. Once the core rods are extracted, cooled down and reprocessed, it can yield between 5-6 kg plutonium per year. The fission material required to make a single bomb is between four to eight kilograms. North Korea’s existing nuclear stockpile is estimated at 40 kg.

In early 2003, the North Korean government announced that it was withdrawing from the Nuclear Proliferation Treaty. In 2005, it admitted it had nuclear weapons. With an inducement of financial subsidies, it was willing to shut down its military program. They cashed in the money. Ten months later, on 9 October 2006, it conducted its first nuclear underground test. Then, on 17 March 2007, in a series of six-party talks, and in exchange for fuel aid and normalization talks with Japan and the United States, North Korea promised to disable its present nuclear facilities (while already constructing a much larger centrifugal separation plant). In July 2007, inspectors of the IAEA (International Atomic Energy Agency) confirmed the shutdown of the Jongbon nuclear reactor. On 25 May 2009, North Korea, contrary to its engagement, conducted a new nuclear test, more powerful than its first. It was in the 7-kiloton range, and took place in the Matapsan Mountains near the Russian border region. In February of 2012, the DPRK (Democratic Republic of Korea) announced that it would once more shut down the Jongbon reactor (a technical excuse, in order to extract the combustion rods to allow them to cool down and extract the plutonium.) This went together with an announcement that North Korea would allow IAEA inspectors into the country, as long as the United States was prepared to improve bilateral relationships between the two countries, and agreed to shipments of humanitarian food aid to North Korea. The US agreed, if cautiously. In April 2012, North Korea fired its first missile and the US suspended their food aid. Ten months later, on 11 February 2013, contrary to their earlier commitment, North Korea exploded another nuclear device, this one of 14-kilotons.⁵) Then came the “hydrogen bomb test” (6 January 2016), which more likely was an enhanced fission bomb than a real hydrogen bomb. One month later, North Korea, in the guise of a peaceful research mission into space, launched a satellite rocket, with a distance capacity to reach mainland US. The launch of an ICBM opened the door to an entirely new ballgame.

North Korea's nuclear program began slowly, but then it accelerated fast. The godfathers of North Korea's nuclear weapons program were an elderly trio: a nuclear physicist, a general of artillery, and an arms broker with contacts to Pakistan. Jon Pyong Ho, So Sang Guk, and O Kuk Ryol, a faceless threesome that remained firmly hidden behind the curtain.

Jon Pyong Ho, the Party bureaucrat was responsible for brokering a deal with Abdul Qadeer Khan, the father of Pakistan's nuclear program. In 2004, Khan admitted to selling nuclear secrets to North Korea. Jon Pyong Ho has since then died of unknown causes. "Although he has passed away," read his eulogy in the state media, "the exploits he performed on behalf of the party, the revolution and the nation will shine on forever."

General O Kuk Ryol, former Chief-of-Staff of N.K. Armed Forces, was appointed (in 2009) head of the Operations Department of the Defense Commission of North Korea.

The godfather-trio's brain was (and according to recent reports still is) So Sang Guk, a nuclear physicist, author of "Quantum Mechanics" and "Elementary Particle Theory". He heads Kim Il Sung University's Department of Nuclear Physics. Also involved in the nuclear program is Hong Sung-mu, the head of the Yongbyon Nuclear Test Center. He has supervised the recent nuclear tests. Hong, a hardline party hack, took his lesson from "the old communist world."

The 6,000 nuclear physicists and missile specialist, logistics personnel, and military personnel involved in North Korea's nuclear and missile program, are considered the nation's elite corps (and well-guarded to prevent any defection). Kyong Won-ha, a nuclear scientist, managed to escape to the South. "By 1996, we had solved a big problem. We didn't need plutonium. Due to an arrangement with Pakistan, we could use uranium."

The man who made much of it possible was a Pakistani. "If we, Pakistanis, had had an atomic capability before 1971, we would not have lost half of our country after a disgraceful defeat." These words were written by Abdul Qadeer Khan, known in the trade as A.Q., the acknowledged father of Pakistan's nuclear deterrence. He convinced his president to produce a bomb. He got the money and built it, and then sold his knowledge around the world. There was a constant rumor about his shady dealings, but nothing could be proven - until US counter intelligence operatives tracked part of Khan's production line to an obscure factory in Malaysia, Scomi, specializing in precision engineering. They manufactured the Khan-designed P-1 centrifuge for the enrichment of weapon-grade uranium. Rather than shutting down the factory, US spy satellites traced the next shipment of crated parts, labeled used machinery, through the Malacca Straits onwards to Dubai, where the cargo was transshipped onto the German freighter BBC China. While on route to Libya through the Suez Canal, the ship was boarded and its

cargo seized. The confiscated “used machinery” revealed the existence of a black market in nuclear components of monumental proportions. It stunned the CIA and the directors of the International Atomic Energy Agency (IAEA). Here was a man calmly trafficking in lethal nuclear technology. For years, A.Q. Khan sailed the murky waters of nuclear terrorism. To put no finer point to it, Abdul Qadeer Khan had transformed himself into the largest and most sophisticated exporter of forbidden items on the nuclear black market. According to an investigator: “He (Khan) exploits a fragmented market and develops a quite advanced nuclear arsenal. Then he throws the switch, reverses the flow, before he figures out how to sell the whole kit, right down to the bomb designs -- and this to some of the world's worst governments.”

The career of this nuclear proliferator began with the help of two associates, Bukhary Sayed Abu Tahir and Peter Griffin. The trio set up a trading company in Dubai, SMB Computers. Counting on a network of willing sub-suppliers specializing in alloy metals, Khan ordered more components than were needed to build the single Pakistani bomb on which he was working at the time. He built up a stockpile of spares. He and his collaborators in quality control falsely marked a great number of centrifuges as flawed, entered them in their books as destroyed, and then sold them out the backdoor. His getting-rich scheme worked fine until the International Atomic Energy Agency (IAEA), in co-operation with intelligence agencies, looked into the surplus component shipments. It soon became clear, that A.Q. was selling his surplus for a fortune on the black market, though he later stated: “I’m only sharing my knowledge with others.” Much of A.Q. Khan’s initial designs and technology found its way to Iran’s bomb making. In 1987, Iran ordered 50,000 P-1 centrifuges (P for Pakistan), to allow it an annual weapons-grade uranium production for thirty bombs.

It is no great secret that there is always a buyer, loaded with money and raring to put his hands on the ultimate weapon. Greed knows no limits. Khan’s gray man, Abu Tahir brokered a deal with Libya’s Colonel Gaddafi. This was to be A.Q. Khan’s undoing; because now another intelligence agency, whose country was the intended target, entered the chase. A.Q. had been so certain of himself (and exceedingly greedy), not only did he supply mechanical components. For a price, he offered enriched uranium and the design to build a bomb. Hidden among the crated centrifuge parts, the agents discovered a complete set of blueprints for weapon making, wrapped in plastic bags from an Islamabad dry cleaner.

High among his customers, desperate to find a furtive way to acquire technology and build nuclear weapons was North Korea. And so, over a number of years, while A.Q.’s team played catch-up with nuclear India (1991 – 1997), Pakistan passed via the A.Q. Khan underground network its nuclear secrets to North Korea. Such a deal could never be done without the implicit connivance of Pakistan’s

president. It came as no surprise when Pakistan, forced by an international mandate arrested A.Q. Khan and put him under house arrest; he was soon set free by order of his president.

This story shows only a minor portion of the startling tale of the proliferation of nuclear technology, with the sole objective to turn a minor player into an atomic nation, and its totalitarian dictator into a nuclear blackmailer.

Playing bumper cars

It is in the nature of men always to look for a casus belli - an act that is used to justify war. North Korea is one such country, which greatly concerns America, if not the rest of the world. It is also in the Chinese sphere of influence. In July 2017, American Defense Secretary James Mattis warned: "A North Korean missile attack could escalate into war very quickly". To which dictator Kim Jong-un replied, he would hold off on plans to fire four missiles towards the Pacific island of Guam and instead watch a little more the stupid conduct of the Yankees.

"I will burn down Manhattan to ashes," threatened a 33-year old North Korean leader, who thinks he is God. Kim Jong-un is God in North Korea. One word and the rivers fill with blood. Only a God can do that. Not only is Kim unpredictable - he sits on a bomb and a rocket. This missile brings China into the equation: in February 2016 a malfunctioning North Korean rocket splashed into the ocean and was recovered by the South Korean Navy; on closer inspection, it was found that its principal components were manufactured in, or were transited through China. It can be assumed (hoped) that the Chinese didn't provide North Korea with their latest missile guidance system, that the rocket is unreliable, and that China has retained the means of destroying it in flight.

North Korea will proceed with its military nuclear program no matter what the costs. The threat is real and fourfold: the true size of its arsenal, detonation strength, missile technology and the ability to elude detection. North Korea's nuclear research complex is located in Yongbyon. Its launching sites are located in the rugged mountain range near the Chinese/Russian border. North Korea has at present an estimated eight to twelve nuclear warheads, but it will soon have probably twenty-five. By 2025 North Korea will have the delivery means for small nuclear warheads to reach the continental USA.⁶) The three missiles tested in July 2017 were the ones the world has been dreading: all three were two-stage Hwasong-14 ICBMs, which according to analysts, appear capable of reaching the U.S. mainland. For closer-range targets, North Korea has an operational intermediate-range ballistic missile (IRBMs) the Hwasong 12 (recently fired over Japan), also capable to carry a nuclear warhead.

For over half a century, nuclear deterrence has kept world peace. Restraints remained safely in place. The Hiroshima bomb was ample demonstration for the responsible nuclear-club nations to keep the atomic genie corked up in a bottle. But now appears a megalomaniac loudmouth on the scene, who has gotten his hands on a few pounds of highly enriched uranium (HEU), and threatens to break this taboo. But is that enough to trigger a war that spins out-of-control? Due to their nuclear capabilities the United States is mutually deterred with Russia and China; with North Korea, we just don't know what this last of the communist dinosaurs is going to start.

The Western media struggles to provide their viewers with military and political options. One would be, stir the fires at his home base and set off a revolt within North Korea's army? There's just one problem: those who could possibly pose a challenge to three generations of Kims had their heads chopped off. (In a refinement of the guillotine, Kim as used an anti-aircraft gun to blow one of his dissenting generals apart...). So let's turn on the heat with the threat of US military actions: Americans are good at what they're doing, indeed very good; they come with their guns and ships and drones, they fix the world, and they leave. Another problem here, the power game along the shores of the Pacific is tricky. It simply doesn't end when America says it is fixed. Sending a carrier group into the region has been tried before and proved futile. Pyongyang likes to use high-profile statements together with missile launches and similar provocations. But what if - Kim's ballistic-nuclear threat is not just blustering rhetoric to jolt an American president and his faithful supporters. What if this paranoid dictator really means to turn Manhattan into a pile of rubble? A nuclear mouse that roars, but a mouse that can set the world on fire.

Sending missiles flying over Japan doesn't add to calm the situation. The US president must act; his diplomatic solution to the nuclear standoff gives way to dangerous fighting words. "The US has been talking to North Korea for twenty-five years. Talking to them is not the answer." 7) And if diplomatic language will not do, this leaves the US president with a limited set of options. Or with no option at all.

The North Koreans assume that their threats will be enough to restrain US action but what if the US is thinking the same, and we end up in a situation where the provocation from one side is seen by the other as an actual move towards war.

"In light of the declaration of war by Trump, all options will be on the strategic table of the Supreme leadership of DPRK," declared North Korea's foreign minister before the United Nations. To which Euan Graham, director of Australia's International Security Program replied: "The US is very unlikely to engage in a preventative war against North Korea, so it's more the risk of stumbling into this because the North Koreans decide they have to escalate or they believe that the US is preparing a preventative strike or a decapitation attack against the North Korean leadership."

What if North Korea's leader panics and launches a swarm of cruise missiles at the US fleet? Recently, Kim Jong-un boasted that his missiles were combat-ready and inflict horrendous losses on the American ships, "to settle the account." He probably referred to the locally produced, conventionally armed land-to-ship missiles. The North Korean KN-1 or KN 01 missile, called Geum Seong-1, a Korean version of the Chinese Silkworm C-601 (or in its upgraded version as C-611) is locally produced. As is the HaiYing-3 C-301, codename CSS-C-6 Sawhorse, an active radar homing, ramjet-powered supersonic land-to-ship missile. With its speed is Mach 2.5, its estimated range is 180 km. It carries a high explosive 500 kg load. Sent off in a swarm, it is feared that several would get through the defensive net of the US Pacific fleet. Could one missile trigger a war? Probably not. But how does the US eliminate Pyongyang's nuclear forces without risking a pre-emptive strike that would leave hundreds of thousands of South Korean and Japanese civilians dead? North Korea could even strike back at the American homeland with a nuclear-tipped intercontinental ballistic missile. U.S. Navy ballistic missile defense cruisers and destroyers as well as ground based Theater High Altitude Aerial Defense systems, all based in Japan, will use their long-range radars to identify and shoot down North Korean missiles as they launch. But some missiles might get through....

What are the options?

Scenario One: a pre-emptive surgical take-out - remaining below the nuclear threshold.

In the event of a sudden attack by North Korea, US airpower will play a key role. The first US strike force would be made up of a fleet of stealth aircraft, led by the B-2 Spirit stealth bombers (payload: 47 x 230 kg bombs) and the new stealth bomber from Northrop Grumman, the B-21 Long-Range-Strike-Bomber (LRS-B), capable of launching nuclear-tipped cruise missiles. Then there is the Lockheed Martin F-22 Raptor. (Stealth as in limited radar invisibility, because anything that disturbs the atmospheric flow, such as an engine exhaust or wing airflow, may be detected due to the Schlieren effect).

As tension with a nuclear-armed North Korea continues to rise, the US Air Force is deploying twelve of its brand new Lockheed Martin F-35A Joint Strike Fighter to Okinawa's Kadena air base. The F-35A carries a pair of Raytheon AIM-120 air-to-air missiles for self-defense and a pair of GBU-12 500 lbs laser-guided bombs or a pair of GBU-31 2000 lbs Joint Direct Attack Munitions, "adding to our ability to strike targets deep inside North Korea" according to Gen. Terrence J. O'Shaughnessy, US Pacific Air Forces commander. The US Marine Corps also has a contingent of short-takeoff-vertical-landing aircraft, Lockheed Martin F-35B Lightning II (6.8 tons capacity plus a 23 mm Gatling canon) permanently based at Marine Corps Air Station Iwakuni in Japan. "This long-planned deployment is designed to demonstrate the continuing U.S. commitment to the stability and security in the region," the Air Force said in its statement. Simultaneously, U.S. Navy's surface warships and submarines would

launch waves of Tomahawk cruise missiles to target North Korean air defenses and command posts. US strike forces would have to move quickly to take out North Korea's retaliatory strike capability - both its nuclear forces and its conventional artillery forces before they could lay waste to nearby Seoul. Such blow must be devastating enough to demonstrate the seriousness of America's intent to keep the world from self-destructing.

For such scenario, the US possesses the necessary means. If North Korea makes an aggressive move, it can count on an overwhelming US response, not to conquer, but to destroy. America's non-nuclear armament is powerful. Electro-magnetic pulses, kinetic energy weapons, blast overpressure bombs (the MOAB or "Mother Of All Bombs"), Unmanned Aerial Vehicles (UAV), and a hail of GPS-guided, high-precision cruise missiles. This option carries a danger: North Korea has thousands of artillery pieces along the demilitarized zone, located in hardened positions on mountainsides that can only be entered from the rear and are hard to knock out - except with precision guided munitions, laser bombs, and, of course, nukes. The danger lies in the surprise element which North Korea controls: in the first minutes of their initial strike, their long-range 170 mm and 300 mm calibers, plus the 240 mm track-mounted rockets, can unload a hail of shells on Seoul, population 10.3 million and only 40 km from the border. Up to 80% of N.K's firepower aggregate is within 100 km of the DMZ. It can cause much damage, however conventional artillery by itself cannot 'flatten' Seoul. But they've also stored shells stuffed with Sarin gas, Anthrax, Botulin and other nasty stuff. A suicidal dictator, who is threatening to use an atomic bomb, will not hesitate to use his biochemical arsenal. Compared to an atomic strike, biochemical weapons may not cause the same devastating number of casualties, but they do cause fear and panic. The final outcome is still the same: within minutes of launching its first surprise artillery attack on Seoul or Tokyo, North Korea will have ceased to exist. Many will die.

Scenario Two: the nuclear option.

Not even remotely imaginable. Nobody believes that an American president is prepared to pay the catastrophic price. The death toll would be so immense no US commander-in-chief would dare ordering such action, or if he did, the Pentagon would probably find a way to disobey the presidential order. Unless pushed to the limit - then no God can help us...

Scenario Three: by far the best solution in a series of bad options is China.

It holds a strong leverage on Pyongyang. Convince Beijing to turn off the tap on its trade in vital necessities with North Korea. Bring down Kim economically. Its outcome will be a victory for all: China's reaps the glory having just saved the globe.

The question: how will Russia react to a retaliatory strike close to its border? And China reacts to Russia? There is a good reason for China to take a firm stand on North Korea. And the reason is the Russian bear. The Trans-Siberian railway and the towns along its track were since the tsars a monument to Russia's historical destiny to march ever eastward until it reached the sea. Khasan is such a pioneer town. From there, a 54 km rail link across the Russian-North Korean common border has recently been opened. It runs from Russia's East-Siberian Railway terminal of Khasan, to Rajin in North Korea. At its opening ceremony were many handshakes and brotherly speeches. "This railway section will promote joint economic and transport developments of our two brotherly countries...a reliable international transport hub linking Asia and Europe." Phrases not at all to Beijing's liking: ...two brotherly countries... a reliable link from Asia to Europe. (Russia bypassing China in the North). This calls for Plan B.

There is but one logical solution to the North Korean issue, and it is contained in Scenario Three: A mutually beneficiary trade agreement between the US and China, something along the line of what President Trump has recently signed in a mega-billion trade deal. China's export trade to North Korea amounts to nothing more than an aid program. China exports annually \$ 6.5 billion goods to North Korea to keep the Hermit Kingdom afloat. Some of this is paid for in coal and iron ore, the rest in North Korean Won, printed-paper with little world value.⁹) Not so is China's export to the U.S., producing an annual \$ 300 billion trade surplus, and paid for in hard \$\$\$\$. It is unlikely that its commercially oriented leadership, with a view towards an open market that very much wants to trade, will chose otherwise. China's wellbeing is a question of arithmetic, not sentiments. Chinese invented the abacus.

Whatever - war, or the threat of war, is bound to bring on chaos.

The news of a growing rapport between Washington and Beijing came in early 2016. Following North Korea's nuclear test, tensions rose not only between Washington and North Korea, but also between North Korea and neighboring China. Chairman Xi's message was delivered by his spokesperson, Hua Chunying. "We strongly urge the Democratic People's Republic of Korea to adhere to its denuclearization commitment, and abstain from taking actions that would worsen the situation." A small diplomatic breakthrough, however, hailed as a great step towards a peaceful solution.

Then came November 2016. Donald Trump's election victory began with a series of diplomatic blunders, some small, and some not so small. But this one was of maxi-size. In an unprecedented breach of protocol, the newly elected US President spoke on the phone with Nationalist China (ROC) president, Madame Tsai Ing-Wen, the archenemy of Mainland China. Was this call the thoughtless blundering of a political novice, or a robust signal of America's new foreign policy in its dealings with Mainland China? Once the media got hold of the story, the White House had to issue a brief communiqué: "...during their discussion, the two leaders noted the close economic, political, and

security ties that exist between Taiwan and the United States...". As could be expected, Beijing's reaction was equally provocative. A Chinese bomber streaked across the South China Sea, which had the Pentagon's radars going haywire. The "diplomatic misunderstanding" ended with a red-faced US president calling the Chinese chairman to reconfirm "America's One China policy."10) It dealt a severe blow to the America's credibility in the region.

Of the highest importance is to escape the threat of a (local) nuclear war. Optimists say it is not likely for an atomic confrontation to take place, since it means annihilation for either side. The other is that an American president must learn never to wage war except towards a clear political end. A new version of Peace in our time? For this, China, the dominant Asian power, and the United States have to clear a lot of misunderstandings before talking about realities on the ground. The conditions are favorable, since neither China, nor the US is worried of a nuclear attack by the other side. In the long term, the fate of Asia is going to be shaped by China. Assuming that a set of strong men can successfully govern a country of one billion plus people, will such a country become land-hungry to feed its multitudes? Check the map: there is one way to go. North, into uninhabited Russian Siberia. This is one of the vital elements in a story in which we cannot glimpse the end of the tunnel.

East Asian philosophy is always subtle and subject to different interpretations; nonetheless, it does illustrate the East Asian mode of thinking, which is much less oriented toward the Western view of logic and concrete ideas. Rather East Asian thinking is more subtle, ambiguous, and open to many different interpretations. Deducing Chinese statements and calculating their subsequent actions will require insights that are rare in the West. US statements (nowadays replaced by presidential twitterings) are less ambiguous. Misinterpreted Chinese pronouncements, together with a lack of US diplomatic finesse - "we've got the bigger hammer" - can easily lead to misfortune.

More than ever, Beijing's leaders are convinced that America is determined to prevent China from increasing its strategic and military influence in Asia. For many years, suspicion and mistrust have corroded the rapport between the superpowers. The US State Department's hopefulness, to count on China for a shutdown of Korea Kim's nuclear threat, stands on shaky grounds. First, China does not fancy the prospect of a unified North and South Korea allied to the United States. And secondly, it is not in the interest of China to shut up the psychotic North Korean dictator; it sees in him a low-cost method to keep America's focus on Pyongyang as the number-one threat in the Pacific.

The reality

August 2017. "I will burn you!" came the irritated retort by Kim Jong-un to an ill-timed outburst by his US opponent. Could this lead to a requiem sung over a portion of the world?

An analysis by nuclear experts of the U.S. Defense Intelligence Agency concludes that North Korea has successfully produced, or is in the act of producing, a miniaturized nuclear warhead that can fit into its medium-range missiles. Stockpile estimates of North Korea's nuclear arsenal vary from 12 to as many as 50 atomic warheads in its inventory. Compared to the eight nuclear powers, with their 15,000 nuclear weapons of all kind, it is not much. But how many bombs does it take to send the world into war? Remember Sarajevo 1914 - one bullet started a world war. Bismarck's prediction of "some foolish act" became reality.

A mushroom cloud is all about destructive power. It is hard to imagine that those who assemble such instruments of terror will not be horrified by the image of the wasteland of a city, where millions of people lived, loved and worked. What remains is a black patch unfit for anything living.

Let us hope common sense will prevail. That presidents and dictators study history through their mind's eye and then ask themselves one single question before they reach for the button: Do I defy God and sanity, and in a suicidal act, push us all into the great beyond? Am I to be the destroyer of a world we once knew?

There is no doubt that history has had its share of villain. Mankind is never short of a maniac who wants to test how far the world is willing to go before the big meteor comes crashing down and everything goes green and ugly.

What, if we look at the situation the other way? What if, as some suggest, Kim acts totally rational by trying to assure his seat of power for years to come? (Fidel Castro managed it for fifty years). Until now, his belligerence has paid dividends. Trump's threats of total destruction provide Kim with a clear justification for his continued nuclear missile buildup. The US president's taunts have failed to bring the North to the negotiation table. A "takeout"? His assassination would make Kim more famous than Our Lady of Fatima. Leaves the military option. Following the collapse of the Soviet Union in 1991, America had pulled out its nuclear arsenal from South Korea. Should the US put the nukes back, and thereby pour oil on the fire? The people of Seoul would oppose the reintroduction of nuclear arms on its soil. It would lead to riots, and so on...

National security consideration is not everything. Global trade plays a major role in any political move. Both Japan and South Korea are major trade partners of the United States. An American president's destabilizing declaration in favor of a pullout from the 12-country Trans-Pacific-Partnership, the free-trade agreement with its traditional allies, Japan and South Korea, will prove of great cost to America's position in the East Pacific region. Threatened with an uncertainty of ongoing American support, South Korea may switch to China as a more reliable trade partner. Also, if North Korea is to remain a nuclear

power, Japan will feel the need for a continuing American guarantee of support against any nuclear threat, which is necessary for its economic survival. It will compete for Asia's economic leadership but avoid the political entanglements. Should such US guarantee not be maintained Japan would have to give serious thought to provide its own nuclear protection. This cannot be to China's benefit. Nor is the President Putin-inspired rail link "from Europe to Asia", which China considers as an intrusion on its predominant position in Asia.

Kim Jong-un exploits this situation by playing a dangerous game. On the economic front, he plays his Russia hand against China. Korean coal for Russian oil. President Putin has rejected the demand for an embargo on oil deliveries to North Korea, quote " this would hurt the people and not their government." It thwarts Trump's economic sanction and his total embargo policy. On the nuclear issue, the American executive doesn't understand that North Korea's policy is based on confronting the Americans - not on avoiding them! As proof, North Korea's capital is awash in anti-American propaganda. Posters of missiles striking the United States Capitol building are plastered on walls along the city's major thoroughways, while local television shows "millions signing the oath to stand up to the American aggressor."

The United States has stepped up the verbal pressure on North Korea, and it has been pressuring China, to take the side of the rest of the world, and help with the North Korean situation. But China's hand in settling this affair will not come for free. First it will insist that the US reduce their presence in the region, removes its anti-missile launchers from South Korea¹¹) and that it stops playing its war games. Then China will demand a favorable trade deal. Now that chairman Xi has settled the problem of his own succession (by not picking a viable successor), he broke there with tradition. He is now on a level with the status of Mao as Asia's man for the future. In his opening speech at the 19th Party Congress in October 2017, Chairman Xi announced his ambition:

"It is time for China to take center stage in the world."

It has already begun. For the first time in his millennia history, the forbidden Center of the Universe is connecting itself to the rest of the world through a gigantic, globe-girdling project. China's logistic road-and-belt network will fan out from the Center of the Universe to Europe – Asia - Africa. The New Silk Road is on its way. That is for tomorrow. But for it to happen, Chairman Xi needs peace in Asia.

And where is Russia in all of this? The Russians have a fitting epitaph for a situation leading to a dark end: Budushchevo net – or: there is no future. They want peace too. It takes quiet in the region to develop their industrial might and to establish pipelines to its Asian clients. Putin's Russia worries more

about China than their Cold War foe, the United States. For the time, they support North Korea as their pawn against Beijing. But their support can change very rapidly.

So China and its Master Xi is the key. With his strengthened dictatorial position, Xi Jinping can now shift his thoughts to the Korean problem. In the meantime, China, world champion in the Game of Waiting, looks on and smiles. Until the day it will see an opportunity to score a substantial gain - because according to Confucius: "In the midst of chaos, there is also opportunity." China is quite good at that.

* * *

To study combat is to study the phenomenon of men interacting with other men in a climate of violence and death. The obvious determinant in war is success or failure. There are combat missions, which are more vital than others. Then there are those, where a commander's failure to take prudent precaution to minimize his losses, gains success at too high a cost. Military commanders, in concert with political leaders, are responsible for what loss percentage, what rate of casualties, constitutes a justifiable cost. A nuclear explosion carries no comparison as it gives no second chance. Instant death is only the beginning. But its horror is not limited to the dead and mutilated. Many more will be physically and mentally impaired. Shock, burns and radiation sickness kills them slowly.

The question at which level of military command a commander has the right - the responsibility - to question or even disobey orders rather than carry them out like some robot, is a difficult and sensitive one. In a democracy, such a refusal is just about imaginable. The leader of a free society knows that his field commander will not unquestioningly comply with an order that makes no sense in the light of gaining a tactical or strategic advantage at a horrendous price. All a general risks is his career. (It happened to General MacArthur when he questioned President Truman order.) In a totalitarian state such as North Korea, should a general refuse his enlightened leader's command, or only tweak his nose, his end is quick. (A DPRK general dared to fall asleep during his leader's speech, and for that affront he was shot.) The magnificence of an egocentric leader, the lure for immortal glory, the fear of losing power, the idea that no alternative solution exists, all these factors determine his decision to save his people, or lead the to the slaughter.

With his domestic political difficulties, the US president needs a resounding victory. His critical decisions depend entirely on his character, his personal motivations, and protecting his hold on a rapidly evaporating constituency. Neither the manner in which he conducts a diplomatic dialog, nor the crisis is has brought on, was inevitable. It slunk in on cat's paws. He might pull the America people

into an unwanted war almost without realizing it. The risk is always that a state, even a democratic state, will answer the challenge by turning towards the brutal extremes of a (nuclear) war.

Kim Jong-un's principal goal is following the dream of his grandfather, Kim Il Sung: annexation of South Korea. Why not he, the Great Unifier of the two Koreas? Neither Japan, nor certainly China would look with a favorable eye on the prospect of 75 million re-united Koreans under Kim's dictatorial fist. What if "the Rocket Man" pulls it off? At least, that's what he gambles on. And should he fail - after all, a failed leader can only fall once on his sword.

Will we face a new world war? It sounds like a scare episode from Project Fear, and it is played in a loop on television. We cannot predict the world's fate by merely looking into a crystal ball, no more than my grandfather could in 1914 and my father in 1939. Before history, who will put himself on the line, which he feels it takes to achieve immortality, be it good or evil. Who will this time stand accused of dereliction of duty? Who will be held responsible for what could turn into the final calamity of mankind? Be hostis humani generis - the enemy of all Mankind.

Assessing blame after a nuclear holocaust is not the point - because there will be no judge left to reach the final verdict.

Endnotes

1) Gabriel Garcia Marquez, 1982 Nobel Prize, at the height of the Cuban Missile Crisis, 27 October 1962.

2) Estimated combat ready troops along the 38th Parallel:

United States 50,000

South Korea 630,000

North Korea 1,190,000 + 5,700,000 Worker Red Peasant Guards

3) Plutonium was first isolated from Uranium-238 by the team of Seaborg-Kennedy-McMilland-Wahl in the cyclotron of the University of California in December of 1940.

4) As visual example, the triple blast-burn-radiation effect of the two 1945 bombs dropped on mid-sized cities in Japan caused well over 200,000 victims.

5) Most of these values derive from seismic disturbance measurements from South Korea, Germany, and the United States Geological Survey, and Norway's Norwegian Seismic Array by using the Comprehensive Nuclear Test Ban Treaty Organization's calculation method.

6) David Wright, co-director of the Union of Concerned Scientists' Global Security Program.

7) US President Trump in a twitter, August 2017.

8) From the German schliere for streak.

9) Present exchange rate: 0.001 Won (KPW) to the dollar.

10) Following President Nixon's 1972 trip to China, the United States had broken off contact with Taiwan's Republic of China (ROC). In a politically charged atmosphere, the Republic of China, one of the founder members of the United Nations, lost its UN council seat to the other, much bigger China, the People's Republic of China.

11) At the Cuban Missile Crisis, it was agreed that the Soviets would remove their missiles from Cuba and the U.S. would pledge not to invade Cuba, and the U.S. would remove its Jupiter missiles from Turkey