

Space Alert!



Global Network Against Weapons and Nuclear Power in Space
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Jeju Island Becoming U.S.-NATO Navy Base?

By Choi Sung-hee

Despite more than ten years of people's non-violent resistance to the construction of the Jeju Island navy base, it opened in Gangjeong village, South Korea, in February 2016. In 2017, between March and November, people in the village witnessed visits by 10 foreign military ships: six from the US, two from Canada and two from Australia. Among the U.S. ships, there were three Aegis destroyers, a mine countermeasure ship, a survey ship, and a nuclear submarine. Two Canadian and two Australian ships were frigates. Most of them came to the base with the purpose of so-called 'munition-loading' and 'break' between war exercises on the sea. The foreign warships also leave behind their kitchen trash and human waste. There is no strict regulation of this trash. What welcomed them was our protest signs and kayaks against the warships and war exercises.

Three concerns mainly come out. Firstly, is the Jeju navy base becoming a U.S. missile defense outpost?

The Jeju navy base is a South Korean (ROK) navy base. However, compared to other South Korean navy bases such as Donghae, Pyeongtaek, and Busan respectively in the east, west, and south of the Korean peninsula, the Jeju base has a clear purpose besides defending South Korea from North Korea. The Jeju base is far from the Korean DMZ but rather close to China. Its main purpose is allegedly to secure the southern sea lane where more than 99.8 % of South Korean's trade material passes by. It is composed



On Nov. 22, 2017, the U.S. nuclear submarine Mississippi came to the Jeju navy base. It was the first time a U.S. nuclear submarine came to Jeju. Photo by Oum Mun-hee.

of the Jeju navy base squadron, submarine squadron and importantly, the 7th task flotilla. It is the base where South Korea's three biggest Aegis destroyers are being deployed to carry out their tasks for 'ocean-going navy' (compared to 'coast navy') and ready to join US-led multinational maritime war exercises. An R.O.K.-U.S.-Japan maritime ballistic missile defense exercise was carried out off the coast of Jeju as far back as 2013.

The Jeju navy base is gradually being conditioned and equipped to host a series of war exercises, to be a port of call for the foreign warships including U.S. Aegis destroyers. Is the Jeju navy base becoming a U.S. missile defense outpost?

Secondly, why Canadian [NATO member] and Australian [NATO partner] ships? The U.S. Navy ships have the 'right' (no matter how unjust) to enter the South Korean bases. The R.O.K.-U.S. mutual defense treaty (1953) and SOFA (Status of Forces Agreement) allow this. However, how about Canadian and Australian navy ships which do not have that right?

In 2016, Vincent Brooks, Commander of the United States Forces of Korea (USFK), R.O.K.-U.S. Combined Forces Command, UN Command, strongly demanded South Korean Ministry of National Defense to conclude SOFA with nine countries belonging to the UN Command. They are Australia, Canada, England, France, New Zealand, Philippine, Thailand, Turkey, and U.S. It is uncertain whether that demand is related to the

entrance of Canada and Australia ships to the Jeju navy base (and other South Korean ports). The USFK is intending to secure its wartime operation control using the UN Command as a cover.

On January 15-16, this year, U.S. and Canada invited 16 countries which were involved in the Korean War, along with Japan and South Korea, to talk about establishing a naval blockade against North Korea. Australia, Canada, New Zealand, United Kingdom, and U.S. are especially mobilized for this blockade. The UK sent her two warships off the Korean peninsula for a US-led joint war exercise, last December. By the Trump government's Indo-Pacific strategy, the role of four countries (Australia, India, Japan, and US) should be noticed, too. South Korea, US, and Australia conducted joint war games off the coast of Jeju on November 6. On November 7 Japan, India, and U.S. conducted joint exercises along the Korean peninsula. Is the Jeju navy base becoming a U.S.-led

(See JeJu P 9.)



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The Deadly Connections: From Bath to Jeju & Beyond

By Bruce K. Gagnon

I was heartbroken to read Choi Sung-hee's story about the expanding US-NATO use of the long-contested Navy base on Jeju Island. I've been to Gangjeong village about five times during the past ten years and have followed their campaign nearly daily. The resistance movement there—one of the most creative and determined that I've ever seen—continues despite current events.

Reading the tea leaves in preparation of this latest edition of Space Alert brings me no joy. The US-NATO are pressing the pedal hard and escalating their encirclement of all their 'enemies'—China, Russia, North Korea, Iran, Syria, Venezuela and much of the African continent. It's a massive military build-up and is costing the people of the world.

The Navy destroyers made in my hometown of Bath, Maine are being sent to Jeju Island and Odessa, Ukraine and many other ports up close to the borders of Washington's enemies. This militarization around other countries forces a counter-reaction which the western corporate media use very effectively to build fear and support for increased military spending at home. It's a well-worn public relations strategy that works as long as the corporations control the media—and they mostly do.

Media that they don't control (like RT) they demonize and do their best to restrict. Many innocent citizens take the bait and avoid a news outlet like RT because they have been mind washed to do so. Hell, RT is one of the few international media outlets that call the Global Network anymore and give us a chance to reach a lot of people around the world. I always say in the interviews that I am against everyone's nuclear weapons but that there can be no disputing the fact that the U.S. and NATO are encircling Russia and China and spending zillions more on war-making technologies.

It is the U.S. (and Israel) that keep blocking the United Nation's development of a treaty to Prevent an Arms Race in Space (PAROS). I've been watching Democrat and Republican administrations since Bill Clinton block efforts by China and Russia to negotiate a treaty on space weapons. The aerospace industry, which is making big money off the new arms race in space, won't allow it to happen. The official position of the U.S. for years has been: There is no problem thus no need to ban weapons in space. That position is starting to change a bit now—with the Pentagon saying, "Well, we don't need a treaty, just some non-binding rules of the road for space would be enough." Non-binding is just what those pushing the new arms race want.

Here in Maine, we've recently been contesting one of these weapons giants—General Dynamics (GD) as they've come to our State Legislature requesting a \$60 million corporate welfare subsidy. Since 1997 GD has received over \$200 million from Maine and the City of Bath. But that is not enough for GD. At the same time GD is hitting up Rhode Island, Connecticut and Kentucky for corporate subsidies always implying that if they don't get the taxpayer 'support,' then they might be forced to pull up stakes and move somewhere else.

The infuriating thing is that this GD request from Maine is coming one month after Congress cut the federal corporate tax rate from 35 to 20 percent. It's criminal. I've been working hard to help build a campaign in our state to oppose the subsidy for GD. The sad thing is that it is being introduced in the state legislature by



Korean peace activist Joyakgol came from Jeju Island to participate in the Maine Peace Walk last October.

two liberal Democrats. One of them was public in her disdain for Trump's recent federal corporate tax cut but appears to see no contradiction in her doing virtually the same thing at the state level. The hypocrisy of politicians knows no party boundaries!

We held our annual Maine Peace Walk here in Bath during mid-October and took flyers to every house and business in the community of 10,000 residents calling for the conversion of the Bath Iron Works shipyard from Navy destroyers to building commuter rail, solar, offshore wind turbines and tidal power systems to help us deal with our real problem—climate change. We got a decent response.

In December I went to Okinawa with a 15-member Veterans For Peace delegation. We sat with the mostly elder crowd blocking the construction gate at the U.S. Marine base called Camp Schwab that sits on pristine Oura Bay. The U.S. has decided that it wants to build twin-runways on top of the bay which would necessitate millions of dump truck loads of landfill. This runway construction would destroy the coral, the already endangered Dugong sea mammals, and much more. We were dragged away from the base gates by Japanese police—the Okinawans have been protesting daily at this base for the last 13 years. Imagine that... they know that if there is a war they are dead. Same goes for friends on Jeju Island and in Guam.

The tough talk by the Trump team to North Korea and other nations is dangerous and criminal. International law says it is a crime against the peace to threaten other nations—especially with nukes. The arrogance of the U.S. is unrestrained and I keep telling folks that the one good thing about Trump is that he is turning off so many people around the world that the collapse of the

U.S. imperial project will happen quicker. People are learning that Washington is toxic.

Let's get right to the point. Washington, Brussels, London, Paris and Bonn see the writing on the wall as China's economy grows and Russia stabilizes itself after the 1990's economic collapse when the Harvard economic boys went to Moscow and gave them the privatization pill. The U.S. knows that its days, as king of the hill, (Mr. Big as I like to call the corporate oligarchy) are numbered. Mr. Big plans to roll the nuclear-loaded dice now and try to impede or topple Russia and China while he still thinks he can. But can Mr. Big really 'put America back in control' without starting WWII? The reports we are getting about U.S. base expansions (more than 800 now in 80 countries) make me wonder if the decision has already been made to go to war.

This is the moment we live in. I deeply bow to all of you who are out there trying to do something to stop the Blitzkrieg and to turn things around. We are linked in spirit. Keep rowing and pray to whomever you might pray. We need each other now more than ever.

—Bruce K. Gagnon coordinates the Global Network and lives in Bath, Maine.

Note to Readers: Spam Filter

We have found that many of the emails sent to our members and friends are ending up in their spam filters. Please be sure to regularly check your spam filters for our emails and those of others who are trying to share important stories. You can keep up with the work of the GN at our web site www.space4peace.org and Bruce Gagnon's blog called Organizing Notes.

GN's 26th annual space conference at Croughton



The push for global domination relies heavily on military satellites for surveillance, communication, command and control and the planning and execution of exercises and wars. However, military satellites require ground-based stations to send and receive information/commands—so a global military presence requires an extensive network of various bases and space centers.

The Global Network Against Weapons and Nuclear Power in Space has campaigned to raise awareness of these issues, to help coordinate actions at related ground-based installations and to “Keep Space for Peace” for over 25 years.

In 2018, we will be holding our annual Space Organizing Conference in Oxford, England. This will also include a protest at the major US/NATO military space communications and control center at nearby “RAF” Croughton.

Croughton is an American military and intelligence communications base on the border of Northamptonshire and Oxfordshire. It is a major hub in the U.S. global electronic communications, control and surveillance network which serves the interests of the U.S. military and intelligence services regardless of the location and the stated mission objectives.

It handles a huge portion of U.S. military communications in Europe, North Africa and the Middle East and is used to route vast amounts of data captured by Washington’s network of listening posts in diplomatic premises back to America for analysis by the CIA and the NSA. A secure fiber-optic link between Croughton and the U.S. air base at Camp Lemonnier in Djibouti helps to coordinate drone strikes over Yemen.

The U.S. is now spending over £200million to transform the base into one of its largest intelligence hubs outside the U.S. to become a new center for counter-terrorism operations in Africa.

The GN’s 26th annual conference is scheduled from June 22–24, 2018 in Oxford with the side trip to Croughton for a protest.

You can find the full schedule and registration information at www.space4peace.org.

NOTES TO OUR MEMBERS

Planned Gift to GN

If you are in the process of estate planning, please consider making a gift of a tax-deductible donation in the form of a bequest, donation of stock or other instruments to the Global Network. Your planned gift would be an important contribution to our global movement to stop the militarization and nuclearization of space. Thank you for your consideration.



US-NATO Militarizing Scandinavia

By Terje Maloy

The Norwegian Air Force is in the process of redeploying the operational centre of its forces. Earlier, during the cold war, the main air bases were located in northern towns, such as Bodø and Andenes. The new main air base will be located at Ørland, situated 500 kilometers further south, in the middle of this long country, at the entrance of the Trondheim-fjord.

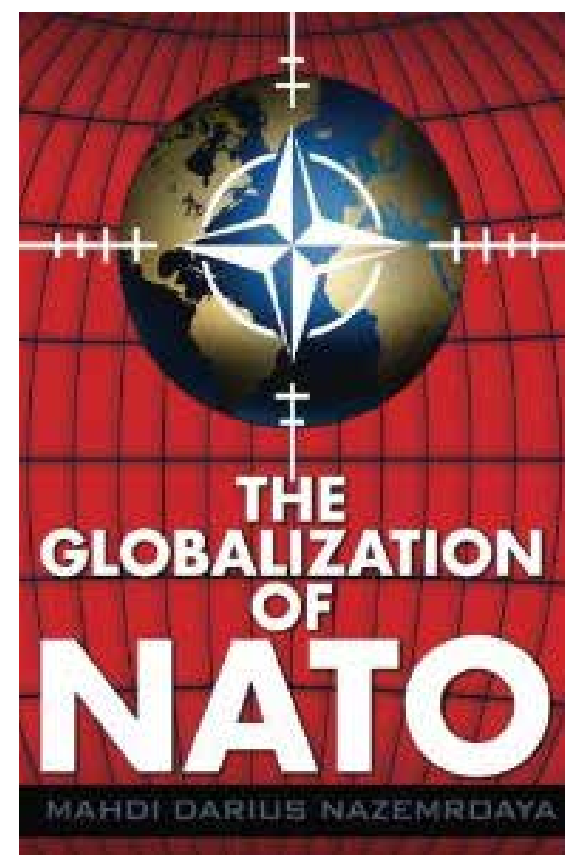
The area around this fjord has been subject to heavy U.S. interest. Since early 2017, a deployment of U.S. marines has been stationed close by, in Værnes, formally on a ‘rotational’ basis. This force is set to double in size, now to 650 marines. The Marine Corps is enthusiastic about their new base, and hope to make it into a major hub for their forces in Europe. Amongst other things, this area offers easy access roads to Sweden, where these forces will participate in major military exercises.

For planners in Washington, the Scandinavian Peninsula is obviously regarded as a strategically important area, and they give it attention. They envision this base area to be part of the strategic encirclement of Russia. Especially important is the enhancement of Ballistic Missile Defense (BMD) systems that are being built all around the Russian borders. Both Denmark and Norway are contributing seaborne parts to the U.S. BMD-shield, based on frigates.

These forces are a part of the drive to militarize the Scandinavian Peninsula. One major objective is to get Sweden (and Finland) to join NATO. Since this cannot be done easily without a referendum (which they might lose), the Swedish and NATO military leadership hope to integrate Sweden and Finland in NATO-structures to such an extent that the line

between formal neutrality and membership in the alliance will not be discernible. Sweden recently said it wishes to join a British-led “Joint Expeditionary Force”, making Swedish participation in a general European war all but inevitable.

—Terje Maloy is a Norwegian/Australian translator and blogger.



We must demilitarize to decarbonize

By Tamara Lorincz

Global warming is worsening. We see the wreckage all around us. Americans faced unprecedented forest fires and massive mudslides last year. Half a million Puerto Ricans are still without power months after the devastating hurricane. Canadians witnessed the worst forest fires ever in the west and a state of emergency was called last summer. Northern England again experienced severe flooding from excessive rainfall this winter. With all of these extreme weather events, we were woefully unprepared.

Instead of adequately protecting people and the planet, we are preparing for war. In November, Congress passed the National Defense Authorization Act giving the Pentagon a budget of \$700 billion, the highest in U.S. history. Last June, Canada released a dangerous new defence policy committing \$553 billion to buy attack helicopters, fighter jets and armed drones and maintain “high-level warfighting” over the next two decades. Repeating President Trump’s rhetoric, the Minister of Global Affairs Chrystia Freeland declared in Parliament that Canada had to increase military spending to project “hard power” and secure “the global order.”

British Prime Minister Theresa May recently pledged to increase defense spending to meet NATO’s target of 2% of GDP. Last August, she hailed the new £3.5 billion aircraft carrier, the biggest and most expensive in the Royal Navy, as a symbol of Britain’s “global power.” This new aircraft carrier, the HMS Queen Elizabeth, was built to carry Britain’s first order of F-35s purchased from the U.S. at a price tag of £6 billion. Britain, like Canada, plans to build more warships and buy more fighter jets.

These exorbitant military expenditures come at a direct cost to the climate. Trump announced a 25% cut to the U.S. Environmental Protection Agency’s paltry annual budget of \$9 billion. The Trudeau-led Liberal government is also planning cuts to the miserly \$1 billion annual budget of the Department of Environment and Climate Change over the next three years as described in the latest departmental plan. May’s Conservative government simply closed the Department of Energy and Climate Change and moved some of its functions to the Department for Business, Energy and Industrial Strategy.

As well, the military is one of the worst

climate culprits. The U.S. Department of Defense (DoD) is the largest institutional consumer of oil in the world spending between \$10-17 billion a year. In the report, Fueling the Energy Balance: A Defense Energy Strategy Primer, it was estimated that the DoD uses more energy, primarily petroleum, than any other private or public orga-

To stop global warming we have to stop war.

nization of the United States as the world’s only super power with global military responsibilities. We achieved everything they outlined as necessary to protect military operations and our national security. At Kyoto, the parties, for example, took a decision to exempt key overseas military activities from any emissions targets, including exemptions for bunker



nization and more than 100 nations. Among all federal departments in their respective countries, the British Ministry of Defence (MOD) consumes the most fossil fuels at a cost of approximately £1 billion per year and the Canadian Department of National Defence (DND) consumes the most petroleum products amounting to \$500 million per year. Military vehicles like tanks, warships and fighter jets are notoriously energy inefficient and have long life-cycles with locked-in energy platforms that are difficult to alter.

Worse, all the carbon emissions from military vehicles and overseas operations are excluded from national greenhouse gas inventories and country reports required by the United Nations Framework Convention on Climate Change. In testimony before the Senate in 1998, U.S. Under Secretary Stuart Eizenstat who led the American delegation at the Kyoto Protocol negotiations explained:

“We took special pains, working with the Defense Department and with our uniformed military, both before and in Kyoto, to fully protect the unique posi-

tion of the United States as the world’s only super power with global military responsibilities. We achieved everything they outlined as necessary to protect military operations and our national security. At Kyoto, the parties, for example, took a decision to exempt key overseas military activities from any emissions targets, including exemptions for bunker

fuels used in international aviation and maritime transport and from emissions resulting from multilateral operations.” These military exemptions became entrenched in the Intergovernmental Panel on Climate Change (IPCC)’s 2006 reporting guidelines. Thus, governments do not have to fully account for their military’s outsized carbon ‘boot print’.

It is no surprise then that the UN Environment Programme (UNEP) found in their latest Emissions Gap annual report that there is a serious discrepancy between what states have committed to as their reductions targets under the Paris Agreement and what reductions are required to limit the global mean temperature increase. UNEP urged states to take immediate and more ambitious action to reduce carbon emissions.

How can we expect to decarbonize when we exempt the military, one of the main culprits of the climate crisis? The IPCC and the Carbon Tracker have estimated that there are approximately 700 GtCO₂ of greenhouse gas emissions that can be released to stay within the carbon budget and still limit the global mean

temperature increase to 1.5°C. Leading scientists have determined that 80-90% of fossil fuel reserves must be left in the ground to achieve net-zero emissions by 2050. Why are we using the bulk of the remaining fossil fuels for warfighting instead of transitioning to a clean, green economy?

In 2014, the Campaign Against Arms Trade released a report entitled Arms to Renewables: Work for the Future about how British defence industries could be converted into manufacturing renewable energy technologies. This report is an example of the transformative change we need. In his book Global Warming, Militarism and Nonviolence: The Art of Active Resistance, peace scholar and activist Marty Branagan advocates for creative nonviolent resistance and direct action. Codepink’s campaign to Divest from the War Machine is an inspiring example of this resistance.

Alongside climate mitigation and adaptation, we need a parallel process of peace and disarmament. There is no way we can continue to conduct costly, carbon-intensive warfare and stay within the carbon budget. If we are serious about decarbonization, we have to demilitarize.

—Tamara Lorincz is PhD student at the Balsillie School of International Affairs in Ontario and member of the Canadian Voice of Women for Peace and the Board of the Global Network.

Test of Aegis Ashore Fails

The Japan Times reported that on January 31 a U.S. military missile intercept test failed in Hawaii impacting Japan’s plan to deploy the costly Aegis Ashore system on its soil.

A Standard Missile-3 ‘missile defense’ interceptor was launched from Kauai Island in Hawaii using the Aegis Ashore technology—a land-based variant of the ship-based Aegis missile defense system—but it failed to hit a dummy projectile launched from an aircraft, a U.S. official said.

The test came after the United States approved a plan in early January to sell four SM-3 missiles to Japan. The US and Japanese governments claim that they need the Aegis Ashore system to counter threats by North Korea but most experts agree that US-Japanese MD deployments on the Japanese mainland and in Okinawa and South Korea are actually aimed at China and Russia.

Navy Weapons Testing in the Deep: Harm or Harmony?

By Katherine Muzik

...deeper and deeper we sank, in our little yellow submarine, into a dark, cold and lovely world, on the undersea volcanic slopes of Makapu u, just off the East Coast of Oahu. Although he initially refused, Bo Bartko, the Star II's brilliant operator/engineer, finally acquiesced to my insistent requests to please turn off the lights. (Bo's job was to collect pink and gold corals for Maui Divers Jewelry Company. He needed lights to see his targets.) Collection of precious corals was restricted, but with me along in the tiny sub (I, a graduate student from the University of Miami, studying octocorals as a Smithsonian Fellow with world-expert Dr. Bayer), the Jewelry Company could once again briefly collect. One for me, one for them. Deal! I fled snowy DC, and arrived in sunny Oahu, sinking happily in the sub, into the deep, dark blue, living sea.

Forty years ago, February 1978, in the tranquil darkness, at 1,200 feet, with the searchlights finally turned off, Bo and I suddenly beheld bioluminescent corals! Peering out my window, I was astonished, as was Bo! Tangled on my side of the sub, a long, coiled, whip-like octocoral was blinking with incredible pulses of light! The first time it had ever been witnessed by humans, alive in the sea, I published its scientific name, *Lepidisis olapa Muzik*. Nowadays, videos of these remarkable animals are available for everyone to see, on Youtube!

I was so lonely then, lacking appropriate camera technology to share my observations, but now I am not. Researchers from Woods Hole, the Smithsonian, National Geographic, NOAA and Hawaii Undersea Research Laboratories have all recently confirmed what I saw! At the Musicians Seamounts, at Johnston Atoll, at the Emperors and Midway, octocoral forests are abundant, especially at 2,000 meters! Some individual colonies of "my" octocorals are, amazingly, over 6,000 years old, older than the Pyramids. Their lifespans are longer than the Sequoias, the Galapagos Tortoises or the Bowhead Whales!

Researchers have now documented these extraordinarily diverse and ancient octocoral forests, which festoon ocean ridges, valleys and sea mounts, all the way from Hawaii to California. These beautiful forests, the subject of my lifelong study, support a splendid array of fish, brittle stars, starfish, snails, crinoids, glass sponges, anemones.... Even a monk seal has been recorded, swimmingly visiting corals at 543 meters.

Despite this phenomenal marine life, including many hundreds of still undescribed octocoral species, the U.S. Navy plans to bombard an area (larger than the continental US) from 150 to 180 W longitude, and 44 to 15 N latitude, surrounding the Hawaiian chain, and a "transit zone" all the way to California, with missiles, ship-sinking's, torpedoes and low, medium and high sonar, for five years, from 2018–2023!

Aegis destroyers, built in Bath, Maine at the General Dynamics shipyard, have long been practicing war from Kauai's PMRF (Pacific Missile Range Facility), blasting missiles fired toward Kwajalein. The new excuse for even more missile practice in the Pacific is to ostensibly prepare for eventual war with North Korea? Spent missiles already litter the nearby sea floor at Kwajalein, with deadly fuels and metal waste continuing to extinguish life there.

The biennial RIMPAC "war games" have assaulted



Kauai Second Grader's drawing of the Navy threat to our sea. Alana Jones, age 8.

this Pacific area of Hawaii since 1970. Every two years, during 4–5 weeks, "they" (navies from 26 countries in 2016) "play war games," sinking ships and crushing sea life with torpedoes, sonar and bombs. This year, 2018, will be the RIMPAC 25th anniversary!

During 2017 there were three reported major accidents in the Pacific involving U.S. Navy ships, causing multiple U.S. Navy seamen deaths. Imagine the potential accidents, during non-stop "testing and training" here, for five years! Human mistakes will undoubtedly occur, during training exercises with nuclear-powered ships, and nuclear-powered submarines with nuclear weapons, rendering the seas of Kauai Island uninhabitable, not just for innocent whales and corals, but also for hapless residents and tourists. And the Navy projects 470,000 hours of sonar use, from low to high frequencies. But, there are only 43,800 hours in 5 years! Steady sonar bombardment means that the quivering corals will be unable to feed, escape predation, or reproduce. Yet the Navy claims, blatantly and falsely, on p. 42 of their 2,800–page Preliminary EIS, that there is "extremely sparse coverage of corals in the deep ocean."

That is a colossal lie.

Therefore, I am beyond disbelief, I am beyond sad. I am enraged. I spoke up for the corals (in the three minutes the Navy allotted me at their November 2017 hearing here in Kauai). Next, I wrote a 534–page document, submitting academic evidence, and underwater videos of the ancient, magnificent sea life living here, to meet their December 2017 deadline.

Can these innocent corals, surviving successfully since long before humans inhabited the Hawaiian Islands, be dismissed, attacked, maimed and killed

by the Navy?

Deep-sea corals are already facing deadly circumstances, being relentlessly inundated by plastic, pesticide, pharmaceutical and noise pollution, and global warming and ocean acidification (even more intense at depth). Soon must they also endure poisonous fuels, such as "exotic volatiles" and nuclear waste, toxic leftover bomb and ship components, entanglement by drifting decelerators and parachutes, and worst, lethal noise, from bombs, ship-sinking and sonar?

I recently spoke to second-grade children, here at a Kauai school, introducing them to the beautiful underwater life I know and love, and then the proposed destructive Navy activities. They were aghast. Even seven- and eight-year-olds understand.

Therefore, I pose the question: Harm or Harmony? I choose Harmony, as do the children... will the Navy?

I urge the Navy to listen to the voices of the children, the voices of the whales and turtles and monk seals, to the silence of the deep-sea corals, which evolved millions of years ago in quieter, cold dark seas. I ask the Navy to change their plans, to abandon them or modify them to spare the corals, which cannot escape their destruction. I suggest they use their manpower and equipment to clean up our oceans, instead of wrecking them. Just as the demand is made at Bath Iron Works, let's convert from Aegis destroyer production to peaceful wind turbine propeller blades!

—Katherine Muzik, Ph. D. is a marine biologist, studying corals for nearly 50 years, in both deep and shallow-water, in the Atlantic and Pacific Oceans. She lives in Kauai, Hawaii (www.ourwaterdrop.org).

Space Nuclear Disaster Waiting to Happen

By Linda Pentz Gunter, Truthout

A war in space might not involve nuclear weapons—for now. But warring satellites could knock out nuclear weapons' early warning systems and set other potential disasters in motion.

[In early December], President Trump announced that he wants the National Aeronautics and Space Administration (NASA) to "lead an innovative space exploration program to send American astronauts back to the moon, and eventually Mars." But while couched in patriotic sound bites and pioneering rhetoric that "Florida and America will lead the way into the stars," the risks such ventures would entail—and the hidden agenda they conceal—have scarcely been touched upon.

For those of us who watched Ron Howard's nail-biter of a motion picture, *Apollo 13*, and for others who remember the real-life drama as it unfolded in April 1970, collective breaths were held that the three-man crew would return safely to Earth. They did.

What hardly anyone remembers now—and certainly few knew at the time—was that the greater catastrophe averted was not just the potential loss of three lives, tragic though that would have been. There was a lethal cargo on board that, if the craft had crashed or broken up, might have cost the lives of thousands and affected generations to come.

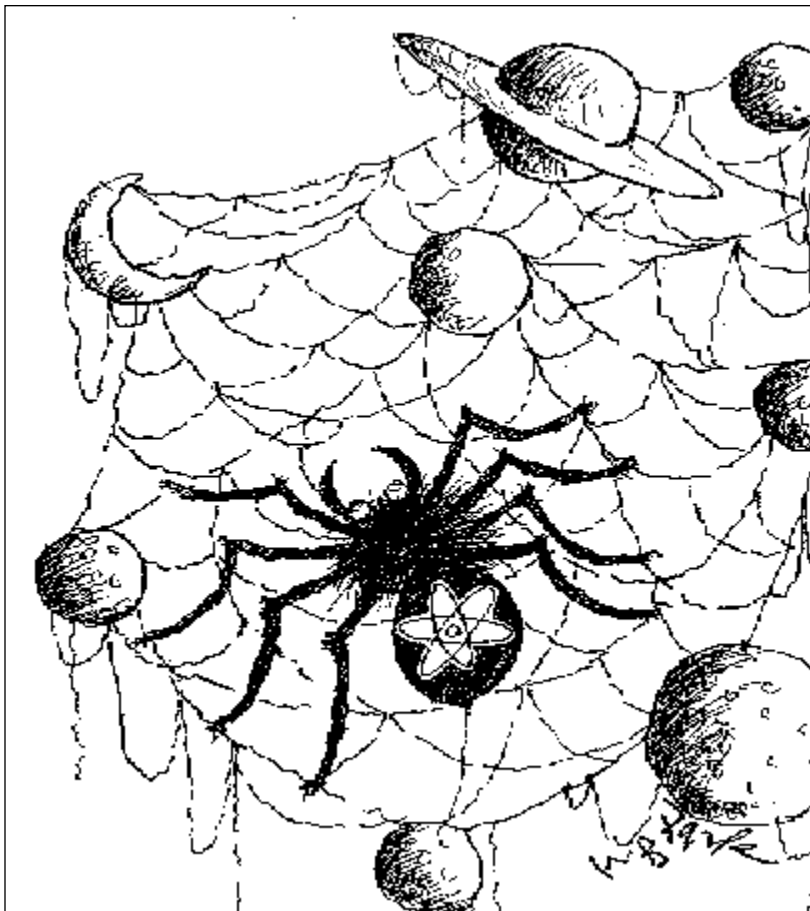
It is a piece of history so rarely told that NASA has continued to take the same risk over and over again, as well as before *Apollo 13*. And that risk is to send rockets into space carrying the deadliest substance ever created by humans: plutonium.

Now, with the race on to send people to Mars, NASA is at it again with its Kilopower project, which would use fission power for deep space. It would be the first fission reactor launched into space since the 1960s. Fission, commonly used in commercial nuclear reactors, is the process of splitting the atom to release energy. A by-product of fission is plutonium.

Small reactors would be used to generate electricity on Mars to power essential projects in the dark. But first, such a reactor has to get to Mars without incident or major accident. And the spacecraft carrying it would also be nuclear-powered, adding monumentally to the already enormous risk. As physicist Michio Kaku points out, "Let's be real. One percent of the time, rockets fail, they blow up, and people die." With plutonium on board, the only acceptable accident risk has to be 0 percent.

When *Apollo 13* mission astronaut John Swigert told NASA Mission Control "Houston, we've had a problem," it only touched on the most immediate crisis: the damaging of the craft after the explosion of an oxygen tank that forced the crew to abort the planned moon landing.

However, what few knew at the time—and what was entirely omitted from Howard's 1995 film—was the even bigger crisis of what to do about the SNAP-27 Radioisotope Thermoelectric Generator (RTG) on board. The RTG was carrying plutonium-238. It



was supposed to have been left on the moon to power experiments. Now that no moon landing was to occur, what would become of the RTG, especially if *Apollo 13* ended up crashing back to Earth in a fireball? Such an outcome could disperse the plutonium as dust, which, if inhaled, would be deadly.

One (and possibly the only) journalist who has been consistently on the "nukes in space" beat for more than 30 years is Karl Grossman. When the *Apollo 13* movie came out, he picked up the phone and called the film's production company, Imagine Entertainment, to ask why they had not included the higher drama of the plutonium problem. "It was surprising to see Hollywood not utilizing an Armageddon theme," he told Truthout.

Grossman said that Michael Rosenberg, then executive vice president and now co-chairman of Imagine Entertainment, told him that the omission was an "artistic decision." However, since NASA personnel had served as advisors for the film, Grossman speculated that the agency might have been more than a disinterested party. Far better that the film confine itself to the life-threatening jeopardy of the three astronauts rather than the danger to life on Earth that would have been posed by falling plutonium.

Grossman was already well aware of the Armageddon potential of NASA missions by the time he called Howard's production company. In 1985, he had learned that two space shuttle missions planned for 1986 would carry plutonium-powered probes to be lofted into space to orbit the Sun and Jupiter. As it turned out, the ill-fated *Challenger* was one of the shuttles scheduled for the May 1986 plutonium mission, in what would have been its second flight that year.

Grossman said he had been worried at the time about a rocket explosion on launch, a not unprecedented disaster. Or what if a shuttle carrying a plutonium-fueled

space probe failed to attain orbit, exploded and crashed back to Earth?

The official NASA and Department of Energy (DOE) documents Grossman eventually obtained using the Freedom of Information Act, "insisted that a catastrophic shuttle accident was a 1-in-100,000 chance," he said.

But on January 28, 1986, *Challenger* exploded. (Shortly thereafter, NASA changed the odds of a catastrophic shuttle accident to 1-in-76.) Grossman called *The Nation* and asked if they knew that *Challenger's* next mission would have carried plutonium. The magazine invited Grossman to write an editorial—"The Lethal Shuttle"—which ran on the magazine's front page.

After *The Nation* editorial, Grossman was invited over to the offices of "60 Minutes." He duly appeared with armfuls of documents and alarming "what ifs" but, as he told Truthout, "there was no ignition," and "60 Minutes" never picked up the story.

Over the years, articles about the use of nuclear power on space devices and military plans for space continued to be ignored. With the mainstream media apparently reluctant to challenge the space program—perhaps out of a misplaced sense of "patriotism"—Grossman continued his solo investigations. In 1997, he penned a book, *The Wrong Stuff*, which detailed NASA's blunders with plutonium-fueled missions and its unrealistic calculations about the probability of a major accident.

There had been problems before *Challenger*. In 1964, an aborted mission carrying an RTG had resulted in a reentry burn-up over Madagascar. Plutonium was found in trace amounts in the area months later. Although the event was downplayed, it had serious consequences, as Grossman found in a report he cited in *The Wrong Stuff*. The plutonium had spread all over the world.

According to page 21 of the report, "A worldwide soil sampling program carried out in 1970 showed SNAP-9A debris to be present on all continents and at all latitudes."

John Gofman, professor of molecular and cell biology at UC Berkeley, and involved in the isolation of plutonium in the early years of the Manhattan Project, connected the SNAP-9A accident to a worldwide spike in lung cancer, as reported on page 12 of Grossman's *The Wrong Stuff*.

Similarly, in 1968, a weather satellite was aborted soon after takeoff from Vandenberg Air Force Base. The plutonium from its RTG plunged into 300 feet of water off the California coast. Fortunately, in this instance, it was retrieved. At the time, all satellites were powered by RTGs. But in the wake of these disasters, NASA had already begun to push to develop solar photovoltaic (PV) power for satellites. Today, all satellites are powered by solar PV, as is the International Space Station.

Apollo 13 jettisoned its 3.9 kg of plutonium over the South Pacific, already the setting for scores of atomic weapons tests by the U.S. and France. Contained in a graphite fuel cask, it supposedly came to rest in the

(See Disaster P 7.)

Women's Forum on Peace & Security in Korea

In a statement released on January 16, 2018 the Vancouver Women's Forum on Peace and Security on the Korean Peninsula said:

The Vancouver [Foreign Minister's] Summit on Korea missed a critical opportunity for peace. Instead of supporting the reduction of tensions in the Korean peninsula that began with the inter-Korean dialogue and the Olympics truce, the Foreign Ministers chose to further isolate and threaten North Korea.

We urged Foreign Ministers to prepare the table for dialogue with North Korea. Instead, they chose to obstruct the path for peace being laid by North and South Korea.

The US-led "maximum pressure" approach has utterly failed to halt North Korea's nuclear and missile program. Seventy years of sanctions and isolation of North Korea have only furthered the DPRK's resolve to develop its nuclear arsenal.

A maximum pressure campaign is not diplomacy that will lead to peace. Increased sanctions hurt ordinary people.

Secretary Tillerson's depiction today of commercial airline flights as potential targets of North Korea's missile tests is reminiscent of Colin Powell's UN presentation about Iraq's "so-called" weapons of mass destruction. This provocative effort to demonize North Korea sets up justification for even more extreme measures against DPRK, such as a naval blockade, which will be viewed by North Koreans as a war-like action.

We are profoundly disappointed by the Foreign Ministers representing countries with a commitment to peaceful diplomacy and feminist foreign

policies. At a time of great global instability, we looked to them for leadership for true global peace and security.

We are resolved to build a global campaign to challenge sanctions that we know have cruel and

punishing effects on ordinary North Koreans, to strengthen our feminist peace movements to challenge the drive for war, and to work towards the formal resolution of the Korean War.

Our commitment to peace is unshaken.



Disaster (cont. from p. 6)

deep Tonga Trench. No one will ever bother to retrieve it, even though it is now technically feasible, because of the enormous cost. Whether it has leaked (likely) and how it has affected marine life will now never be known.

Grossman kept on writing about the dangers of nuclear materials in space as well as the possibility for space wars. He found that one of the reasons NASA and the DOE sought to use nuclear power in space was to work in tandem with the Pentagon, which was pushing Ronald Reagan's Strategic Defense Initiative, known colloquially as "Star Wars." Star Wars was predicated on orbiting battle platforms with nuclear reactors—or "super RTGs"—on board, providing the large amounts of energy for particle beams, hypervelocity guns and laser weapons.

Although seemingly alone on the issue as a journalist, Grossman is not without an important resource in the form of Bruce Gagnon's Maine-based Global Network Against Weapons and Nuclear Power in Space, which

has been campaigning on the issue since 1992. Gagnon has watchdogged space weaponry but also U.S. government plans to plunder other planets and moons for minerals, as the Trump administration is hinting it expects to do. Gagnon told Grossman that such plans have never been far from the nuclear industry's radar and that at nuclear power industry conferences, "Nuclear-powered mining colonies and nuclear-powered rockets to Mars were key themes."

The topic was also covered by Helen Caldicott and Craig Eisendrath in their 2007 book, *War in Heaven*. That same year, the Cassini space probe was launched. It carried 72.3 pounds of plutonium fuel, used to generate electricity, not propulsion—745 watts of it to run the probe's instruments. As Grossman wrote in a recent article and drew attention to in his documentary—*Nukes in Space: The Nuclearization and Weaponization of the Heavens*—Cassini "was launched on a Titan IV rocket despite several Titan IV rockets having blown up on launch."

In 1999, because "Cassini didn't have the propulsion power to get directly from Earth to Saturn.... NASA had it hurtle back to Earth in a 'slingshot maneuver' or 'flyby'—to use Earth's gravity to increase its velocity," Grossman wrote. A catastrophic failure of that operation could have seen Cassini crash to Earth, dispersing its deadly plutonium load. According to NASA's Final Environmental Impact Statement for the Cassini Mission, Section 4-5, the "approximately 7 to 8 billion world population at the time... could receive 99 percent or more of the radiation exposure." And yet, the agency proceeded to take that chance.

The world had once again dodged a radioactive bullet. In September 2017, having completed its mission, Cassini was deliberately crashed into Saturn, contaminating that planet with plutonium. While less controversial than lethally dumping it on Earth, the event raises at least moral, if not scientific questions about humankind's willingness to pollute other planets with abandon after already doing so to our current home.

The Trump administration's planned new missions to the moon and Mars would seem to follow that pattern, with Trump stating ominously, "this time we will not only plant our flag and leave our footprint." The U.S. now intends to conduct "long-term exploration and use" on Mars and the moon.

A recent article in *Roll Call* suggested that while Trump has said little publicly about the militarization of space, behind-the-scenes space satellite warfare is very much on the agenda with serious money set aside to develop "weapons that can be deployed in space."

A war in space might not involve nuclear weapons—for now. But warring satellites could knock out nuclear weapons early warning systems and set other potential disasters in motion. These cataclysmic risks play strongly into the arguments—enshrined in the recent UN nuclear weapons ban—that we should be disarming on Planet Earth, not arming in space.

—Linda Pentz Gunter is an international specialist at *Beyond Nuclear* and writes columns on the follies and false representations of nuclear energy and the link between nuclear power and nuclear weapons. Copyright, Truthout.org. Reprinted with permission

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See page 16!

India's Role in Nuclear & Space Weapons Development

By J. Narayana Rao

India is making great strides in the field of nuclearisation and space exploration. A country which has opposed nuclear weapons since 1945 now is in possession of them. It has started a nuclear arms race in South Asia after it tested nuclear weapons in May 1998. This test gave way for Pakistan also to follow suit. These two countries with unfriendly relations on the issue of Kashmir are sitting on an explosive situation. Notwithstanding that both the countries with very low index of human development are determined to build up nuclear arsenals in a big way. India and Pakistan have not signed the Comprehensive Test Ban Treaty (CTBT) and the Non-Proliferation Treaty (NPT).

India's nuclear policy is not only conditioned by its hostilities with Pakistan but also due to the other bigger neighbor which is a nuclear power i.e. China. With the Indo-U.S. Nuclear Deal, the nuclear weaponization program of India has got a boost. Now, more uranium indigenously produced can be diverted to produce more nuclear weapons. Pakistan is also working hard to secure a similar deal with U.S. for the same reasons which India had. The China, India and Pakistan syndrome has to be diffused and prevent a nuclear catastrophe in the future.

India is making rapid strides in space technology. It is constantly updating its missile and rocket capability. It is now targeting to develop nuclear capable missiles. In January 2008, India announced that it has developed a two-layered Ballistic Missile Defence (BMD) system to counter enemy missiles. Hitherto India's space policy was for peaceful purposes. But it may not be able to hide the temptation of joining the processes of weaponization of space for a long time.

The civilian attitude is against weaponization of space. But the military is pursuing the contrary. While inaugurating the International Aerospace Power Seminar in 2007, Mr. Pranab Mukherjee, then the external Affairs minister of India, said that "recent developments show that we are treading a thin line between current defence related use of space and its actual weaponization. While the focus on aerospace power is natural, it is in our common interest to preserve outer space as sanctuary from weapons and guard it as the common, peaceful heritage of mankind."

But the Air Force top brass thinks otherwise. Former Air Chief Marshall of India S. P. Tyagi disclosed that the Indian Air Force is in the process of establishing an "Aerospace Command to exploit outer space and control space based assets." The testing of an anti-satellite weapon by China on June 1, 2001 accelerated this thinking. Another former Indian Air Force Chief S. Krishna Swamy is on record to say that "any country on the fringe of space technology like India has to work toward such a command as advanced countries are already moving towards laser weapons platforms in space and killer satellites."

Mr. Dennis Cavin, Vice President of International Air and Missile Defense Strategic Initiative of Lockheed Martin disclosed that India could be looking for Washington and other nations to help in developing crucial sub-systems for the BMD. If the international community fails to take steps in the direction of abolition of nuclear weapons and prevention of an arms race in outer space, India may fall in line with U.S. on



J. Narayana Rao (on left holding banner) at one of several schools he spoke at during our last Keep Space for Peace Week.

these issues, keeping in view the growing economic and military might of China.

The movement for abolition of nuclear weapons is half a century old. There is not a single country in the world in which the people are not clamoring for a total abolition of nuclear weapons. All sections of people are behind this demand. Even then humanity is not closer to see "A world without nuclear weapons."

Unfortunately India also joined the club of madness. Government of India is not even in the front runners working for "A world free of nuclear weapons." Rajiv Gandhi has cautioned against weaponization of outer space. He exhorted that, "We must expand international cooperation in the peaceful use of outer space; the es-

sential prerequisite for this is that outer space be kept free of all weapons. Instead there are plans of developing, testing and deploying a space weapons system. The nuclear arms race cannot be ended and reversed without a moratorium on such activity."

We have to intensify our efforts to raise the voice of the people of the world louder and louder. There should be collective actions by the people of all the countries. There should be an apex body of all the International Peace Organizations to intensify simultaneous global actions for abolition of Nuclear Weapons and Prevent an Arms Race in Outer Space.

—J. Narayana Rao is a board member of the Global Network and lives in Nagpur, India



Hanscom AFB: Upgraded Space & Nuclear Role

Hanscom AFB, the only active duty Air Force base in New England, is an 846-acre base located in Bedford, Massachusetts. At the base, a mix of active-duty military, civilian and contractor employees 'develop and acquire sophisticated radar, cyber and information technology-based systems that provide critical battlefield situational awareness to U.S. warfighters'.

The Nuclear Command, Control, and Communications (NC3) Integration Directorate will be based at Hanscom. The mission to ensure the Pentagon can communicate with crews manning the nation's nuclear missiles and nuclear-capable bombers is run out of Hanscom.

Another project developed at Hanscom, called FEURY OV-1, is 'key to helping commanders fight battles in Afghanistan and Iraq. The FEURY team developed the radio systems and the software that enabled commanders to see what aircraft flying over ground battles with sophisticated targeting pods could see.'

Perhaps the most significant tool developed by units at Hanscom in recent years is the 'Battlefield Airborne Communications Node. It has been described as a universal translator, helping troops on the ground talk—and give precise targeting coordinates—to pilots overhead.'

Elected officials in Massachusetts are

quite excited about the Pentagon decision to spend more money in their state since military spending is now virtually the only job creation game in town.

Senator Elizabeth Warren said, "Hanscom AFB plays a vital role in strengthening our national security. The base's leadership in developing innovative defense [actually offensive] technologies makes it the right choice to take on the NC3 mission."

Senator Edward J. Markey said, "Massachusetts is a national innovation incubator and our technological edge makes Hanscom the ideal place to establish a new nuclear command. This new responsibility for Hanscom will create jobs in the Commonwealth and help protect our nation."

AFSC's Joseph Gerson in Cambridge wrote, "Michelle Cunha of Mass Peace Action saw a notice in her local paper about the new unit's role at Hanscom. Michelle is taking the lead in what, of necessity, will be primarily local organizing of one or more [protest] events outside Hanscom on 'Patriots Day' April 16 (the celebration of the 'shots hear around the world' that started the U.S. revolutionary war that served the interests of artisans and businessmen in the Northeast and land speculators who'd been cut off from the lands west of the Appalachian mountains by the Quebec Act.)"

Jeju (cont. from p. 1)

multi-national launching pad in case of any outbreak of war? We should keep both of our eyes wide open this year!

Thirdly, the visit by an aggressive U.S. nuclear submarine is evidence of Jeju becoming a strategic outpost for the U.S. It also gives us alarm about the possibility of nuclearization of Jeju. The Joint Declaration on the Denuclearization of the Korean Peninsula signed by North and South Korea in 1992 reads that 'The South and the North Korea shall not test, manufacture, produce, receive, possess, store, deploy or use nuclear weapons.' The declaration has been broken by the tests of nuclear bombs started in 2006 by North Korea who faces continuing threats from the U.S. Still it is a very important declaration to remember. South Korea should not 'receive' those U.S. nuclear warships. It is quite devastating that during Trump's visit to Korea, Nov. 7-8, last year, President Moon and Trump agreed to acquire and develop nuclear submarines in South Korea, along with rotation deployment of so-called U.S. 'strategic military as-

sets' around and nearby the Korean peninsula. The Gangjeong Sea is already polluted by toxic materials used by domestic and foreign warships and cannot bear the risk of radiation.

At a rapid pace, Jeju navy base is bringing the bad omens for the future of Jeju. As a next step, an Air Force base, too, is planned in Seongsan, on the east side of Jeju, under the cover of a civilian airport (the 2nd Jeju airport). A resident there carried out more than 45 days hunger strike against it.

The Jeju navy base has become a powder keg in Northeast Asia and should be closed! Further, this year marks the 70th year of April 3rd resistance against the U.S. Army Military Government and puppet South Korean government! Right after the uprising on April 3, 1948, the U.S. mobilized a warship to blockade the coast of Jeju. Historians believe that between 30,000 to 80,000 Islanders were massacred by 1954.

—Choi Sung-hee is a Global Network advisory board member and lives in Gangjeong village on Jeju Island, South Korea

Judge Dismisses Aegis 9 Charges

By Bruce Gagnon

The trial of the Aegis 9, arrested in Bath, Maine on April 1, 2017 for standing in front of the entrance gate of a 'christening' ceremony for a new Aegis destroyer at Bath Iron Works (BIW), ended when the judge dismissed the charges against all nine peaceful defendants after the state prosecutor concluded the state's case on February 1.

Justice Dan Billings, Superior Court Judge, granted the defendants' motion for judgment of acquittal saying, "The Bath Police Department was outsourced to Bath Iron Works [owned by General Dynamics]. This is not how it is supposed to work. The city has to consider the bigger picture [of constitutional rights to assemble]." Billings maintained that the Bath Police Department had used "unfettered discretion" in their arrests of the Aegis 9.

During the trial, the head of BIW security said the weapons corporation had the right to decide in advance who they will let into a public event. He stated that if one of their own workers walked past a peaceful protest and spoke to those assembled they would not allow that worker inside the ceremony. The judge remarked that by using that logic that if he [the judge] "walked past a protest and shook Bruce Gagnon's hand and had a friendly word with him," that even he would be denied entry to a 'christening' ceremony.

There were other issues—the DA opened the trial saying it was a slam dunk case about the nine defendants trying to enter the ceremony but when the jury was shown the video of the events it clearly revealed the nine peace activists stopping about 12 feet in front of the gate, turning with their back to the gate, and standing still with signs until they were arrested. The Aegis 9 maintained their only goal was to have people entering the event be able to read their protest signs.

The state's two key witnesses also could not conclusively identify the BIW property line. The Aegis 9 were represented by Logan Perkins from Belfast, Maine who did an exceptional job with the case.

Local activists in Bath have put out a call for volunteers to risk arrest at BIW during next destroyer 'christening.' So far 47 people from Maine and several other states have put their names on the list. The date of the next destroyer 'christening' at BIW is not yet known. The Aegis destroyers built in Bath are outfitted with so-called 'missile defense' systems that are actually key elements in Pentagon first-strike attack planning. The ships are currently being used to help encircle China and Russia with sea-based and land-based MD systems.

Saudi Claim of MD Success Refuted

The New York Times reported in December: The official story was clear that Saudi forces shot down a ballistic missile fired by Yemen's Houthi rebel group last month at Saudi Arabia's capital, Riyadh. It was a victory for the Saudis and for the United States, which supplied the Patriot missile defense (MD) system.

"Our system knocked the missile out of the air," President Trump said the next day from Air Force One en route to Japan, one of the 14 countries that use the system. "That's how good we are. Nobody makes what we make, and now we're selling it all over the world."

But an analysis of photos and videos of the strike posted to social media suggests that story may be wrong.

Instead, evidence analyzed by a research team of missile experts appears to show the missile's warhead flew un-

impeded over Saudi defenses and nearly hit its target, Riyadh's airport. The warhead detonated so close to the domestic terminal that customers jumped out of their seats.

Saudi officials did not respond to a request for comment. Some U.S. officials cast doubt on whether the Saudis hit any part of the incoming missile, saying there was no evidence that it had. Instead, they said, the incoming missile body and warhead may have come apart because of its sheer speed and force.

Governments have overstated the effectiveness of missile defenses in the past, including against Scuds. During the first Gulf War, the United States claimed a near-perfect record in shooting down Iraqi variants of the Scud. Subsequent analyses found that nearly all the interceptions had failed.

Odds & Ends

Greenwashing the Pentagon

The U.S. military is preparing for a changing climate, but not in order to protect the Earth's environment. The Pentagon's first and foremost concern is to respond to global warming only in so far as that response enhances the military's "operational effectiveness"—its ability to fight. Jim Mattis, Secretary of War, has spoken out about the dangers of climate change, running contrary to the commander-in-chief whose National Security Strategy omitted it as a threat. Analysts expect the military to continue with its climate change adaptation and preparedness programs, despite the President's denials. However, even as the U.S. military takes steps to make itself more fuel and energy efficient, the Department of Defense remains the world's largest institutional fossil fuel guzzler. Big increases in the military's size, pushed by Trump and Congress, are only going to make the Pentagon's and the world's carbon emissions worse—which could ultimately impact national security and "operational effectiveness."

1% Getting Even Richer

The gap between the super-rich and the rest of the world widened last year as wealth continued to be owned by a small minority, Oxfam reported. Some 82% of money generated last year went to the richest 1% of the global popu-

lation while the poorest half saw no increase at all, the charity said. Oxfam said its figures showed a failing system. In 2017 it calculated that the world's eight richest individuals had as much wealth as the poorest half of the world.

Mattis: 'Don't try it'

Space News reported in January: The title of the 2018 National Defense Strategy—"Sharpening the American Military's Competitive Edge"—pretty much sums up the tone that has been set by Secretary of War Jim Mattis. The plan is straightforward: compete, deter and win. And that applies to outer space, too. "Space is like any other domain of war," Mattis said following a speech at the Johns Hopkins School of Advanced International Studies, where he laid out the broad themes of the new strategy. Asked by a member of the audience to elaborate on how the U.S. military would fight enemies in space, Mattis delivered one of his trademark one-liners: "Don't try it." In space, the U.S. has to become so strong to make it obvious to adversaries that they would have "no benefit to be gained" from attacking U.S. systems, Mattis said. Capabilities in this case are not traditional military weapons but space systems that are resilient to attack. "It's not about what you might think, guns in space shooting at each other," Mattis said. To deter enemies,

the military has to make it hard, if not impossible, for them to interfere with U.S. satellites. "For every satellite up, we'll have a hundred more that could launch as fast as they're taken out," he boasted.

Stop Funding Terrorists

In a shot across the bows of U.S. regime change hawks, Rep. Tulsi Gabbard (D-HI) has implored her fellow legislators to vote to end foreign entanglements. Gabbard, who served a 12-month tour in Iraq as a field medic, called on her fellow lawmakers to rally behind the 'Stop Arming Terrorists Act,' which she submitted to Congress last year. "The practice of spending taxpayer dollars to fund counterproductive regime change wars must end," she tweeted. Her "Stop Arming Terrorists Act," or HR 608, states that it would "prohibit the use of United States government funds to provide assistance" to Al-Qaeda or state sponsors like Saudi Arabia from receiving cash, weapons, or intelligence. "Every American would be surprised to know that for years our government has been providing both direct and indirect support to these armed militant groups, who are working directly with or under the command of terrorist groups like Al-Qaeda and ISIS, all in their effort and fight to overthrow the Syrian government," Gabbard told RT late last year.

Lost Sat Cost Billions

A highly classified U.S. government military satellite was totally lost after being taken into space by a recent launch from Elon Musk's SpaceX in early January. The secretive payload—code-named Zuma—was suspected to have burned up in the atmosphere after failing to separate perfectly from the upper part of the SpaceX Falcon 9 rocket. The missing satellite was worth billions of dollars.

THAAD's Trail of \$\$\$\$\$

Lockheed Martin will build up to 40 missile defense rocket interceptors under terms of a \$273.5 million contract. The Missile Defense Agency (MDA) in Huntsville, AL., is asking Lockheed Martin in Grand Prairie, Texas, to build Lot 9 of the MDA's Terminal High Altitude Area Defense (THAAD) ballistic missile defense system interceptor missiles. THAAD is designed to shoot down short, medium, and intermediate-range ballistic missiles in their terminal phase using a hit-to-kill kinetic warhead. THAAD uses an X-Band radar from the Raytheon Co. in Andover, Mass. Other key subcontractors are Boeing, Aerojet, Rocketdyne, Honeywell, BAE Systems, and Milton CAT. On this contract Lockheed Martin will also do the work in Grand Prairie, Texas; Huntsville, Troy, and Anniston, AL.; and Camden, Ark., and should be finished by March 2020. THAAD is field tested at Fort Bliss, Texas and Kodiak Island, Alaska. The system has been deployed in the United Arab Emirates, Turkey, Guam and South Korea.

U.S. Still Blocking Space Weapons Ban

On the 30th of October, 2017 the First Committee of the UN General Assembly (Disarmament and International Security) approved six draft resolutions, including one on a legally binding instrument on the prevention of an arms race in outer space. During the meeting, the Committee approved the draft resolution "Further practical measures for the prevention of an arms race in outer space," by a recorded vote of 121 in favour to 5 against (France, Israel, Ukraine, UK, U.S.), with 45 abstentions. The U.S. refusal to enter into negotiations on the treaty (introduced by China and Russia) ensures that it will not get off the ground.

Australia Should Stay Neutral

Bob Carr, Australia's former foreign minister, says Australia should remain neutral and not be viewed as trying to "contain" China in a security grouping with the U.S., India and Japan. Prospects for a security coalition between Washington, Tokyo, Canberra and New



While it appears that the sailors onboard the USS Sprunce destroyer are saluting the Golden Rule Peace Boat they are actually acknowledging the crowd onshore in downtown San Diego in 2017. The Golden Rule Peace Boat—a project of Veterans For Peace—has for the past year been sailing the west coast of the U.S. doing a lot of great antiwar teaching work. The Golden Rule is planning to sail to Hawaii, the Marshall Islands, Japan and Korea in the near future. Stay tuned for that great peace adventure. They will need and deserve much of our support. The USS Sprunce was built at the Navy shipyard in Bath, Maine owned by General Dynamics. www.vfpgoldenruleproject.org

Odds & Ends

Delhi gathered steam after officials from the four countries met in Manila in December for the first time for what is known as the Quadrilateral Security Dialogue, or “Quad”. “Australia is the only one of the four countries that is not the strategic rival of China,” Carr, who was Australia’s foreign minister from 2012 to 2013, said on the sidelines of the World Internet Conference in Wuzhen, China. “It [the Quad] would drag Australia into an explicit commitment or statement that comes very close to a policy of containment of China.”

Independence from the U.S.

Aotearoa Independence Movement (AIM) in New Zealand is demanding their nation get out of the Five Eyes spy alliance (with the U.S., UK, Canada and Australia), and pull the plug on the military and intelligence alliance with Trump’s increasingly dangerous and unhinged U.S. Get out of the American wars that we are already in, such as in Iraq and Afghanistan and definitely stay out of any new wars that Trump may try to drag us into, such as in Korea. Close the NZ Government Communications Security Bureau (GCSB) spy bases at Waihopai and Tangimoana (which are U.S. National Security Agency bases in all but name). The GCSB, which is simply a junior subcontractor for the NSA, must be abolished. Cyber-security (the excuse offered for its existence) can be provided by a dedicated non-spy government agency.

More \$\$\$ for Failed Ground-Based MD

The Los Angeles Times reported in late 2017 that the Trump administration is moving to vastly expand the problem-plagued Ground-based Missile Defense system despite warnings that the planned upgrades may not succeed. Immediate plans call for building two \$1 billion radar installations and adding 20 rocket interceptors to the 44 already deployed in underground silos at Ft. Greely in Alaska and Vandenberg AFB in California. The Pentagon is also taking steps to launch new satellites to help each interceptor’s “kill vehicle” find, crash into and destroy incoming ballistic missiles high above the atmosphere. The expected cost is about \$10.2 billion over five years, on top of more than \$40 billion already spent for the system. Congress has passed a short-term funding bill that includes \$200 million to start preparing construction of additional missile silos in Alaska. Since flight testing started, interceptors—often launched from Vandenberg, near Santa Barbara County—have failed to destroy target missiles in nine of 18 attempts. Since

2004, the system has failed in six of 10 of the flight tests. Those tests that did ‘succeed’ were largely scripted—called ‘strap down rabbit’ tests.

Return of Brilliant Pebbles?

Space News reported in late 2017 that the National Defense Authorization Act for Fiscal Year 2018 authorizes the development of a “space-based ballistic missile intercept layer, capable of providing boost-phase defense.” This would be an attempt to resurrect the high-tech missile shield derided with the moniker ‘Brilliant Pebbles’ during the George H.W. Bush administration. Congress is asking the Pentagon to investigate the possibility. Having multiple interceptors in position to defend against multiple missiles would mean thousands of interceptors in orbit. A 2004 study by the American Physical Society suggested that 1,646 satellites would be required for full-Earth coverage. The cost of such a system is estimated at \$67-\$109 billion. One inherent weakness of a space-based missile shield is that an adversary could both launch a missile to create a gap and later launch a second missile through the gap. Filling gaps in coverage would require back-up interceptors in orbit, waiting to take the place of an expended one, or the ability to launch new interceptors with short notice. These options would require a substantially greater investment than a minimal satellite constellation.

China Fears Expansion of NATO into Asia-Pacific

South China Morning Post reported in late 2017 that China’s biggest worry is that THAAD would move the U.S., South Korea and Japan one step closer to a NATO-like regional alliance, and eventually create a “mini Asian version of NATO” to counter China, said retired Chinese army colonel Yue Gang. “China is desperately trying to avoid this because the military threat then would be much more than just a ballistic missile defence system,” he said. THAAD is just one component of Washington’s planned BMD system in the Asia-Pacific. The integrated system would be designed to spot and shoot down any missile aimed at the U.S. or its overseas bases when China fired a retaliatory response after a U.S. first-strike attack. (The U.S. Space Command routinely computer war games a first-strike attack on China and Russia.) Japan has been the most enthusiastic participant in U.S. plans in the region, deploying long-range X-band radars, ship-based Aegis tracking systems equipped with SM-3 interceptors, and ground-to-air PAC-3 interceptor missiles. It is also planning to install a land-based version of Ae-

gis called Aegis-ashore. At the same time, South Korea is moving ahead with its own Korean Air and Missile Defence System (KAMD), which also uses PAC-3. China’s major beef with the THAAD system is its powerful X-band mobile radars, which could keep an eye on Chinese military activities inside the country’s eastern territory and waters.

UK Drone Wars

Chris Cole (Drone Wars UK) writes: In December 2017 the RAF announced that British Reaper drones had reached the significant milestone of flying 100,000 hours of combat operations. First deployed in Afghanistan in 2007 and on operations against ISIS in Iraq and Syria since 2014, the UK’s Reapers have been continuously engaged in surveillance and strike operations for a decade. However, with the collapse of ISIS in Iraq and Syria, ten years of continuous drone operations should be coming to an end. But statements by British government ministers as well as senior military officers indicate that the UK wants its Reapers to continue to fly, seemingly indefinitely.

Military Space Shakeup

A controversial shakeup of the military space organization mandated by Congress will get underway in 2018. A laundry list of provisions in the National Defense Authorization Act (NDAA) will reshape the military space chain of command and oversight of programs. “A lot of people focused on the fact that Mike Rogers’ idea for a [separate] space corps didn’t happen, and they missed that a lot of reform did go into this bill,” Rep. Adam Smith, the ranking Democrat on the House Armed Services Committee told Space News. Rep. Mike Rogers, chairman of the House Armed Services strategic forces subcommittee, has been a longtime proponent of creating a space corps within the Air Force with a separate chain of command. The plan was approved by the House but didn’t make it past the Senate. “We are moving forward with modernization in space, so we’re increasing our lethality in all of our areas of endeavor,” Air Force Secretary Heather A. Wilson told reporters in late 2017. “And we are shifting to space as a warfighting domain.” Wilson said Congress has proposed to increase the funding of space-related military programs even beyond the levels sought by the Air Force. “Secretary Mattis has been very clear in his guidance to all the services that we are to go look at how do we increase lethality and readiness,” Air Force Chief of Staff Gen. David L. Goldfein also told reporters. “The nation expects its Air Force to own the high ground, the ultimate high

ground and achieve space superiority which is like air superiority—freedom to attack and freedom to maneuver.” Most of America’s space strategy is coordinated from the National Space Defense Center (NSDC) at Schriever AFB in Colorado.

Aerospace Industry Wins One

Space News reported in January that Air Force Secretary Heather Wilson notified the congressional armed services committees of a new plan to create a three-star position that would directly support U.S. Space Command. The post would be “vice commander of Air Force Space Command,” and would be based in the Washington—not in Colorado Springs, Colorado, where Air Force Space Command is headquartered. This is part of a broader effort by the Air Force to comply with a legislative mandate to increase focus on space and make it a higher priority on the Air Force’s agenda. Many lawmakers remain doubtful that the Air Force is “culturally” able to focus on space as much as it does on air operations. The growing power of the aerospace industry inside Washington indicates that their demand for a separate service to control the Pentagon’s space operations is bearing some fruit. This concession by the Air Force is one step closer to expanding military space activities—all of which will give massive profits to the aerospace industry.

Trump’s Drones

The Trump administration is not only expanding the use of drones, it is also obscuring the facts about how many drones are being used, how many people are being killed by them and where. “The government has all but officially suppressed information coming out about U.S. policy concerning drone warfare,” Nick Mottern, founder of the anti-drone activist site KnowDrones, told WhoWhatWhy. “We can tell by examining defense budgets that increased funding is being poured into the drone program,” he said. “This is also obvious from blogs tracking drones leaving bases in Italy, Djibouti, and likely another in Africa.” The U.S. military presence in Africa has slowly been increasing, under the guise of fighting terror groups like al-Qaeda-aligned al-Shabaab and ISIS-affiliated Boko Haram. One only has to look at the growing drone program, and recent reports revealing 6,000 U.S. troops stationed in Africa. The Trump administration seems intent on obscuring its growing use of drone strikes in several countries.

(See Odds & Ends P 13.)

Odds & Ends

(cont from p. 11)

UK Military Space Grows

At the annual Global Milsatcom conference that kicked off in London in 2017, UK officials were trying to stir enthusiasm about the nation's space business and highlighting the growing convergence between government and private-sector investments. As a major producer of satellites, the UK boasts a \$14 billion a year space business that employs 14,000 people. Satellite services account for more than \$300 million in annual economic activity. Britain produces 40 percent of the world's small satellites and 25 percent of telecom spacecraft. The military is looking for ways to tap into the space boom, said General Sir Chris Deverell, commander of the UK Joint Forces Command. The command is responsible for Britain's military satellite communications.

EU Might Ban Toxic Launches

The European Union might ban the use of the toxic satellite propellant hydrazine as early as 2021, which would present a major challenge for the EU's space industry. Priya Fernando, head of the Propulsion Design Group at Airbus Defence and Space, said even if the space sector gets an exemption to continue using hydrazine, the cost of the fuel would double in Europe, which would seriously handicap EU space manufacturers. Fernando said the EU space industry might lose up to 2 billion euros (\$2.35 billion) per year as a result of operations being moved to countries where no restrictions apply. Speaking at Space Tech Expo Europe in Berlin, Fernando said that alternative monopropellants such as hydroxylamine nitrate (HAN) or ammonium dinitramide (AND) are nowhere near ready to replace hydrazine in the near future.

More Space Nukes

According to Space News NASA and the Department of Energy (DOE) have restarted production of a plutonium isotope used to power some space missions, a new report warns of challenges that could threaten its long-term supply. The Oct. 4 report by the Government Accountability Office said that while there is sufficient plutonium-238 in stockpiles now for missions planned through the mid-2020s, scaling up production of the isotope faces a number of technical issues. "DOE is making progress towards producing new plutonium-238," said Shelby Oakley, director of acquisition and sourcing management at the GAO. "However, DOE faces challenges in hiring and training the necessary workforce, perfecting and scaling up chemical processing, and ensuring the availability of reactors that must be addressed or its ability to meet NASA's needs could be jeopardized."

Only one NASA mission currently in development requires an RTG [plutonium generator]: the Mars 2020 rover, which will use an RTG similar to that powering the Curiosity rover. NASA is making available RTGs for the next New Frontiers medium-class planetary mission, which the agency plans to select by mid-2019 for launch in 2025.

MD Tests off Scottish Coast

The U.S.-led NATO air and missile defence exercise known as Formidable Shield ran from September-October 2017 at the Hebrides Range off the northwest coast of Scotland. The exercise claimed to strengthen cooperation among NATO allies against possible missile threats, including from North Korea. The UK Government and defence contractor QinetiQ have recently spent £60 million on modernizing facilities at the Hebrides Range, with a further £16.8 million planned for new and upgraded radars. However, some analysts suggest that the NATO system in its current configuration lacks the reach and early warning radars to shoot down North Korean ballistic missiles. Since 2002, the Aegis BMD system has reportedly achieved 36 successful missile intercepts out of 44 attempts. Exercise Formidable Shield involved the participation of 14 ships, including a British Royal Navy Destroyer and two frigates, 10 aircraft and approximately 3,300 personnel from the UK, Canada, Spain, Germany, Italy, France, the Netherlands and the U.S.

U.S. MD Base in Israel

Yahoo reported in September 2017 that Israel inaugurated with the U.S. a joint missile defence (MD) base on Israeli soil, the first ever. The new facility, at an undisclosed location in southern Israel, was announced as Israeli Prime Minister Benjamin Netanyahu met Donald Trump in New York on the fringes of the UN General Assembly. "We inaugurated, with our partners from the U.S. Army, an American base, for the first time in Israel," Brigadier General Tzvika Heimowitz, head of Israeli missile defences, told journalists. "An American flag is flying permanently over a U.S. army base situated inside one of our bases."

Pushing Lasers in New Mexico

Associated Press reports the Pentagon is making another multimillion-dollar investment in high-energy lasers they say have the potential to destroy enemy drones and mortars, disrupt communication systems and provide military forces with other portable, less costly options on the battlefield. Sen. Martin Heinrich (D-NM), a longtime supporter of directed energy research, announced the \$17 million investment during a news conference inside a Boeing lab where many of the innovations were developed. The U.S. already has the ability to shoot down enemy rockets and take out other threats with traditional weapons, but Heinrich said

it's expensive. "This is ready for prime time and getting people to just wrap their head around the fact that you can put a laser on something moving really fast and destroy it... has been the biggest challenge," said Heinrich. Boeing has been working on high-energy laser and microwave weapons systems for years. With advancements over the past two decades, high-powered laser weapons systems can now fit into a large suitcase for transport across the battlefield or be mounted to a vehicle.

Canada Helps Arm Kiev's Puppet Government

Ottawa has included Ukraine in the list of countries where from December 13, 2017 the supply of Canadian lethal weapons has become legal. In fact, Canada has created a dangerous precedent, denies the essence of the Minsk accords [calling for peaceful negotiations between Ukrainian parties] and takes sides in the intra-Ukrainian conflict. The implementation of these plans may cause an escalation of the conflict in the eastern Ukraine where the Russian speaking populations have been repeatedly attacked by the right-wing government (with active assistance from Nazis) in Kiev following the U.S. assisted coup d'état in 2014. Canadian Prime Minister Trudeau said that Canada will continue to help Ukraine "defend its sovereignty". Canadian military instructors will continue training the soldiers and officers of Ukraine's Armed Forces until March 2019. Canadian Defense Minister Kharjit Sadzhan also announced plans to build a factory in Ukraine for the production of ammunition.

Marine Commandant: We're going back to the Pacific

As the U.S. nears the completion of nearly two decades of combat in the Middle East, the commandant of the

Marine Corps said the service is looking beyond the region and working to focus more on other parts of the world where new threats are emerging, Military.com reported in December. During a brief visit to the new Marine Corps rotational force in Norway as part of a multi-country Christmas tour of deployed Marine units, Gen. Robert Neller held a forum and took questions from a handful of Marines. "I think probably the focus, the intended focus is not on the Middle East," Neller said. "The focus is more on the Pacific and Russia. So I believe we'll turn our attention there," Neller said. "We're going back to the Pacific."

Space Week Events

The Global Network's annual Keep Space for Peace Week will be held October 6-13 this year. Please put it on your calendar. We urge local protests and other events that bring the space issues we are concerned about to a wider audience around the world. Be sure to let us know what you plan to do in your community and send us a photo after it is over.

Future of ISS?

Rumors are circulating that the Trump administration will propose to stop the financing of the International Space Station (ISS) by NASA by 2025, writes the American publication The Verge. Since 2011, the US has shut down its fleet of space shuttles—the delivery of crews to the International Space Station and their return to Earth is handled by Russia. The US rents space on the Soyuz spacecraft from Russia for its astronauts. Private space companies, such as Space X, who make money bringing cargo deliveries to the ISS may face a loss of orders and are protesting against the termination of the station's financing in 2024-2025. Operation of the ISS costs NASA \$3-4 billion per year.



Melman & the Alternative to Endless Warfare Society

By Jonathan Michael Feldman

On December 30, 1917 Seymour Melman was born in New York City. The 100th anniversary of his birth helps bring his intellectual legacy into focus. Melman championed alternatives to militarism, capitalism, and social decay by advancing a systematic counter-planning program for disarmament and economic democracy. The key transformative principle was economic and social reconstruction, i.e. the idea that planned alternatives to the incumbent mechanisms for organizing economic, political and cultural power exist in alternative institutional designs and matching systems to extend these designs.

Reconstruction would provide an alternative to the permanent warfare economy. The 2018 defense bill signed by President Trump allotted about \$634 billion for core Pentagon operations and allotted an additional \$66 billion for military operations in Afghanistan, Iraq, Syria and elsewhere. More money was available for troops, jet fighters,

ships and other weapons, even though there are millions of U.S. citizens living in poverty (40.6 million in 2016).

Melman addressed the problem of the enduring post-war militarism of the U.S. in perhaps his most famous book, *The Permanent War Economy*, first published in 1974. The permanent character of the war economy reflected the consolidation of the military largess bestowed on aerospace, communications, electronics and other war-serving industries, not to mention universities, military bases and associated institutions serving the military economy. This corporatist system, linking the state, corporations, trade unions and other actors was described by Melman in *Pentagon Capitalism: The Political Economy of War*, a 1971 book which showed

“the conversion of military factories, bases, laboratories and affiliated institutions like universities could provide a way to recoup wasted resources and provide a security system for those threatened by military budget reductions.”

In Vietnam, Iraq and Afghanistan, the U.S. tried to defeat guerilla operations in which the opposing military was embedded in civilian zones. Attacking such areas deflated the U.S. military's legitimacy with the projection of military power undermining U.S. political power in the region being attacked.

how the state was the top manager that used its procurement and managerial power to direct these various “sub-managements.”

Melman recognized that militarism was not just an economic problem, but also an ideological one. One myth embraced by both the Republican and Democratic Parties was the idea that military power can be used without any limits.

When it comes to terrorism, Melman saw terrorist actions as tied to alienation, individuals cut off and remote from social integration. Clearly social inclusion could remedy such a situation, but economic decline and an absence of solidarity simply compounded terrorist threats (whatever the diverse origins).

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Disarmament, Conversion and Alternative Security

Melman believed that both political and economic decline could be reversed by vastly scaling back the U.S. military budget which represented a gigantic opportunity cost to the national economy. The other side of the \$1 trillion military budget was a vast development fund which could be used to modernize the U.S.'s energy and transportation infrastructure and reinvest in other areas of economic decay self-evident in collapsing bridges, polluted waterways, and congested transit systems. He linked urban under-development and deficits in ecological remediation to wasteful military budgets.

Melman described a four

point program for demilitarization in *The Demilitarized Society: Disarmament and Conversion*. First, he championed a comprehensive program for general and complete disarmament (GCD) in multi-lateral disarmament treaties of the sort favored by President John F. Kennedy and described in his famous June 10, 1963 American University address. Rather than have so-called “rogue states” disarm, all nations would coordinate their military budget and military power projection systems. This leveraged arms reduction system can be contrasted to proliferation reduction strategies which beg the question as to why countries like North Korea would even pursue nuclear weapons (to defend against a U.S. military attack).

Second, disarmament treaties would be linked to a program of military budget reductions and alternative civilian investments. These reductions could pay for needed infrastructure improvements, including the need to rebuild mass transit and energy systems. Alternative government investments in needed civilian areas could provide the alternative markets required for helping transition military-serving investments into more useful civilian activity.

Third, the conversion of military factories, bases, laboratories and affiliated institutions like universities could provide a way to recoup wasted resources and provide a security system for those threatened by military budget reductions. Conversion involved advanced planning and reorganizing workers, engineers, managers and technology. For example, at one point in the post-Vietnam War era, the Boeing-Vertol company (which made helicopters used in the Vietnam War) successfully produced subway cars used by the Chicago Transit Authority.

Finally, an alternative security system could maintain defenses as weapons were cut during phases of a disarmament treaty. Melman supported a kind of international police force useful in peacekeeping and related missions. He recognized that the multi-year disarmament process would still leave in place defensive systems as more offensive systems were initially scaled back. Britain's unilateral disarmament campaigns were political fiascos which made the left an easy political prey to the political right. In contrast, the GCD approach still left room for comprehensive cutbacks without the political

(See Alternative next page.)

RUSSIA



GERMANY



JAPAN



CHINA



FRANCE



United States



PUT AMERICANS BACK TO WORK AND
IMPROVE OUR ECONOMY AT THE SAME TIME

👉 Rebuild Our Antique Infrastructure 👈

Alternative (cont. from p.14.)

fallout associated with claims that states were left vulnerable to attack. Verification and inspection systems would insure that cuts could be made safely and any cheating could be detected by states attempting to conceal weapons systems.

Melman believed that the power to demilitarize could be supported by workers' and citizens' own self-organization. Cooperatives provided an essential mechanism to create the primitive accumulation of citizens' economic power which would have a significant political spin-off effect. Melman believed that once cooperatives reached a certain scale they would act as a kind of lobbying system. This system could redirect the political culture to more productive and sustainable pursuits as opposed to predatory, militaristic and ecocidal ones.

The post-Cold War talk of military budget downturns created an opening for citizens' self-organization. Thus, Melman convened "The U.S. After the Cold War: Claiming the Peace Dividend," a May 2, 1990 national town meeting in which dozens of cities rallied to cut the military budget and invest in needed urban and ecological investments in a peace economy. Political democracy in this case was extended by a radio network broadcast over Pacifica and dozens of affiliated stations.

Melman believed that peace movements, while opposing senseless wars, had "become safe for the Pentagon." By being remote from the culture of production, they did not realize the simple fact that producing and selling weapons generates capital and power, thereby requiring more than a reactive protest system to Pentagon capital accumulation. In contrast, the founder of Mondragon, José María Arizmendiarieta Madariaga, realized in the Nazi bombing campaign of the Spanish Republic that technology had become the source of ultimate power. The other side of Picasso's Guernica was a system in which workers themselves could control technology for their own use, providing an alternative to capitalists and militarists' monopoly over technological power.

Today's activists would be wise to embrace Melman's ideas to fill the power vacuum in the wake of the Trump administration's legitimacy crisis and movement reactive malaise. "Resistance," the movement's hegemonic meme, is not reconstruction.

—Jonathan Michael Feldman studied under Seymour Melman at Columbia University and worked with him to establish the National Commission for Economic Conversion and Disarmament in Washington, D.C. Feldman can be reached on Twitter @globalteachin

ARMS DEALERS, BY SALES

This chart organizes the world's top arms companies by sales, location, and arms as a percentage of sales:

Rank	Company	Country	Arms sales (2016)	Arms as % of sales
#1	Lockheed Martin	USA	\$40.8B	86%
#2	Boeing	USA	\$29.5B	31%
#3	Raytheon	USA	\$22.9B	95%
#4	BAE Systems	UK	\$22.8B	95%
#5	Northrop Grumman	USA	\$21.4B	87%
#6	General Dynamics	USA	\$19.2B	61%
#7	Airbus Group	EU	\$12.5B	17%
#8	BAE Systems (U.S.)	USA	\$9.3B	93%
#9	L3 Technologies	USA	\$8.9B	85%
#10	Leonardo	Italy	\$8.5B	64%

Note: Airbus considers itself a European company. It's registered in the Netherlands, and its main HQ is in France. The above data comes courtesy of the Stockholm International Peace Research Institute (SIPRI), which tracks arms deals and companies extensively. (Source: VisualCapitalist.com)

the funnies



Aegis Ashore in Japan: Provocative Arm of MD

By Atsushi Fujioka

U.S. deployed a Terminal High Altitude Area Defense (THAAD) missile defense system in the central part of South Korea, in late April 2017. Eight months later, on December 19, 2017, the Japanese government decided to purchase two Aegis Ashore Platforms, along with SM-3 anti-ballistic missiles from US, one on Akita Prefecture of northern Japan, the other on Yamaguchi Prefecture of western Japan. Worrying the anti-war movement, these platforms will be built within the base of Self Defense Forces of Japan. Self Defense Forces have previously activated eight Aegis-equipped navy warships.

There have already been three Pentagon deployments of the AegisAshoreprogram. One is in US, the Aegis Ashore Missile Defense Test Complex at the Pacific Missile Range Facility in Kauai, Hawaii. The second one is in Romania, which the U.S. deployed in May 2016. The third one is scheduled to deploy in Poland in October 2018.

The Japanese government must pay \$20 billion for the two platforms to Lockheed Martin Corporation. Besides that, including eight SM-3 missiles, operating costs, and other expenditures, the whole price tag of the program would reach \$30 billion, which is equal to the annual subsidies provided by our government to the entire private universities and colleges of Japan.

In the morning of December 19, 2017, in front of Premier's office, a protest gathering took place. They shouted, "Not Missile, but Better Education." GN sent a solidarity message to Japanese peace activists, read

by Koji Sugihara, a long-time member of Advisory Board of GN.

Why did Pentagon persuade Japan to buy Aegis Ashore, not THAAD?

The answer is their shooting ranges. If a North Korean missile attacked Gaum, Hawaii, or mainland US, it would reach more than 200 km high as it flew over Japan. THAAD missile can reach only 40-150 km high, but SM-3 interceptors can reach up to 1,000 kilometers. Therefore, only Aegis Ashore stationed on Japan can protect U.S. "war machine" bases located there.

The U.S. Strategic Command will be heavily involved

"The power of the atom has changed everything except our modes of thinking."

in the operation and the possible use of Japan's Aegis Ashore interceptors. These bases would really be built to enable the U.S. to use them as a threat—and possibly as a platform for firing first-strike missiles, including cruise missiles headed to China, as Defense Minister Mr. Onodera suggested in Kauai, Hawaii, in January of this year. Therefore, they would form part of the aggressive ring of bases now being installed by the U.S. in Europe and the Pacific to encircle and contain Russia and China.

If North Korea did simultaneous multi-launching of missiles or shooting from submarines, it would be incredibly difficult to intercept and shoot down such nuclear missiles.

At the same time, we must consider a big difference between the "nuclear and non-nuclear" world. A nuclear reaction is one thousand times faster than a chemical reaction caused by dynamite. A nuclear blast would be finished within ten microseconds. In the same time, the SM-3 missile can only move within 10 cm. An incoming North Korean nuclear missile could carry a "proximity fuse device," which can detect the SM-3 "Anti-Ballistic missile" approaching at one-meter zone and detonate instantly. In that case, the nuclear detonation will end at the point that SM-3 approaches closer than 10 cm. If such nuclear blast occurred at 100-1000 km high over Japan, it will produce a powerful electro-magnetic pulse that would take out satellite communication and GPS systems in space and would destroy electricity and computer networks, including even Aegis Ashore Platform itself. High Altitude Nuclear Explosion (HANE), which were conducted more than 15-20 times by U.S. and Soviets in 1958 and 1962, have shown, any nuclear explosion in outer space would bring about "Nuclear Black Out" catastrophe, it is the 21st Century version of "Nuclear Winter."

As Albert Einstein warned us in May 1946, "The power of the atom has changed everything except our modes of thinking." The conventional wisdom, such as "anti-ballistic missiles can safely shoot down incoming missiles," would bring us toward an unprecedented catastrophe of Nuclear Black Out.

—Atsushi Fujioka is a board member of the Global Network and lives in Kyoto, Japan

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