

opinion

Is new China the old Japan?

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New York

In the context of the continued economic and military rise of China, an old Japanese propaganda poster from the Philippines now on display at a small but powerful exhibition in New York City, marking the 75th anniversary of the outbreak of World War II, is striking.

Japan's wartime flag as well as those of the people, nations and admitted colonies that Imperial Japan sought to conquer are visible in the exhibit.

This particular poster depicts parts of East and Southeast Asia, and in English, reads: "December 8th. The third anniversary of Greater East Asia War to defend Asia for and by the Asiatics. Japan's victory is the Philippines' triumph."

Dec. 8 was the date from Asia's side of the dateline of Japan's attack on U.S. forces at Pearl Harbor, Hawaii.

On display at the Grolier Club, a New York institution dedicated to appreciation of books and prints, the poster is one of many items that can be viewed until Aug. 2 in "The Power of Words and Images in a World at War."

Drawn from the collection of the Museum of World War II in Boston, the exhibition focuses on the iconic posters, broadsides, books and periodicals that influenced millions in the course of the last great worldwide conflict."

Yet, in touring the exhibition of old words and images, a very modern, troubling question comes to mind: Does "New China" equal "Old Japan"?

Or more pointedly, does China risk becoming the Japan of some seven decades past, namely a rising nation that sparks conflict and then war under the guise of "Asia for Asians"?

Trouble continues to brew in the East China and South China seas, where an increasingly assertive China is seen, fairly or not, by many of its neighbors as a schoolyard bully, taking by force — one "salami slice" of territory at a time — what it could not through diplomacy.

The stationing of a massive floating deep-water oil rig by China into waters also claimed by Vietnam has been the latest flash point and tensions continue to escalate. Riots flared in Vietnam

against factories and other interests perceived as being linked to China, and video footage of what seems to be a massive Chinese ship ramming and sinking a much smaller Vietnamese fishing boat has hit the Internet.

The last few months, let alone years, are no model for a way forward when it comes to dispute resolution.

Cases in point: In November of last year, China unilaterally announced an expanded air defense zone encompassing airspace that overlapped with claims by Japan, South Korea and Taiwan.

And in the last few months, Chinese military planes have come dangerously close to those of the United States and Japan. China, Taiwan and Japan also all claim the Senkaku Islands, known as the Diaoyu Islands by the Chinese.

To the south, in an area that China claims is its own, within a "nine-dash line" skirting the coasts of several Southeast Asian nations, Chinese ships patrol a reef still claimed by and known by the Philippines as the Scarborough Shoal.

So far, China — in its rhetoric and its efforts to change the status quo — is losing the external public relations war even as its actions no doubt may play well at home amidst a slowing economy and growing concerns over pollution and corruption.

Pointedly, at the recent Conference on Interaction and Confidence Building Measures in Asia summit in Shanghai, Chinese President Xi Jinping unveiled a new "Asian Security Concept," which in essence called for Asian security to be left to Asians. China has indeed "stood up," and a century of "humiliation" at the hands of Western powers is long over, as China, the second-largest economy in the world, resumes its "rightful" place in the world order.

Flash back to the 1930s and 1940s as Imperial Japan's propaganda machine exhorted Asians to control their own destinies and throw aside the yoke of Western colonial rule. Asia for Asians was the mantra.

And better yet, Japan's leaders argued, come join Japan in a "Greater East Asia Co-Prosperity Sphere," where all would benefit as Japan took its rightful leadership role in the region.

Well, we all know how well that played out, as Japan's vision of Asia for Asians led that nation and much of the Asia-Pacific region down a path of destruction. From the ashes of World War

II and the Korean and Vietnam wars that followed, a new paradigm evolved with the U.S. helping guarantee a Pacific peace that has allowed Asia to prosper and ironically China to rise.

That defense status quo is now being challenged by China even as the U.S. and Japan seek to reaffirm it.

At the Asia Security Summit held recently in Singapore, also known as the Shangri-La Dialogue, U.S. Secretary of Defense Chuck Hagel and Japan Prime Minister Shinzo Abe both raised China's ire with statements challenging China's recent territorial moves.

The U.S. "will not look the other way when fundamental principles of the international order are being challenged," Hagel said. "We firmly oppose any nation's use of intimidation, coercion or the threat of force to assert [its] claims."

Abe, in his keynote address, announced Japan's intention to play a greater role in regional security, in ensuring open skies and sea lanes, and in supporting Southeast Asian nations in territorial disputes with China.

Sadly there is no third party — no respected principal in the schoolyard — to intervene, and in a face-saving move make clear that all sides need to let cooler heads prevail.

China should pull back its oil rig. The 10-member Association of Southeast Asian Nations must work together now, and a clear code of conduct be established in the South China Sea even as territorial claims remain unresolved.

And every nation — Japan, China and the U.S. included — should treat each other with respect.

With tensions mounting, it is time for all players to take a step back from the brink of even greater conflict and commit to engagement, cooperation and a peaceful resolution to disputes.

The power of words and images — a force during wartime — can also be a force during times of (relative) peace. This will be essential if this century is to be one of shared peace and prosperity in the Asia-Pacific region, some 7½ decades since the start of World War II.

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Why capturing CO2 emissions remains frustratingly expensive

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Fossil fuels will remain an indispensable part of the global energy supply for at least the next 50 years, so no means must be found to burn them without pumping carbon dioxide into the atmosphere.

According to Martin Wolf, chief economics commentator for the Financial Times: ("Just as the civilization of ancient Rome was built on slaves, ours is built on fossil fuels. What happened in the beginning of the 19th century was not an industrial revolution but an energy revolution. Putting carbon into the atmosphere is what we do."

But there is no necessary connection between using fossil fuels and belching CO2 skyward. In the future, carbon capture and storage (CCS) projects could sever the link, enabling fossil fuels to be burned safely in power plants while storing the emissions underground.

Deploying CCS is essential if the rise in average global temperatures is to be limited to no more than 2 degrees Celsius by the middle of the century, according to the International Energy Agency ("Technology Roadmap: Carbon Capture and Storage," 2013).

"As long as fossil fuels and carbon-intensive industries play dominant roles in our economies, carbon capture and storage will remain a critical greenhouse gas reduction solution," the agency warned in 2013. "There is no climate-friendly solution in the long run without CCS." But progress toward deploying the technology remains achingly slow.

The technology for each of the three components of CCS — capturing the carbon dioxide emissions, transporting them and pumping them underground — is fairly well understood. Each of them has been applied on a modest scale at various locations around the world for several decades.

Nowhere have they been applied to capture all the emissions from a utility-scale, coal-fired power plant. The first two large-scale power plant CCS projects, in Mississippi and Saskatchewan, will only become operational later this year. Both projects will inject captured CO2 into depleted oil fields near power plants to enhance crude recovery. Their operational and financial performance will not be known for several years. Given that both are pioneering, there will probably be teething problems.

Southern Company's integrated gasification and combined cycle project at Kemper County in Mississippi is already a financial disaster. Kemper's projected cost has spiraled from \$1.8 billion to \$5.5 billion, making it the most expensive power plant in the world for its output. Construction costs now top of those for a similar-sized nuclear power plant.

Financial and operational problems with first-of-a-kind engineering projects are common. The challenge is to learn from them and apply the lessons in second and subsequent generations of the same type of project.

In 2008, to help the new technology, the leaders of the United States, Japan, Germany, France, the United Kingdom, Italy, Canada and Russia pledged to "support the launching of 20 large-scale

CCS demonstration projects by 2010 ... with a view to beginning broad deployment of CCS by 2020."

Since then, however, progress has been disappointingly slow. The target of 20 projects has been missed by a wide margin, and the timeline for deployment has slipped badly.

Transportation and storage of carbon dioxide are fairly mature technologies, though no one has ever tried to deploy them on the scale needed to capture most of the emissions from the world's coal and gas-fired power plants.

For more than 40 years, carbon dioxide has been injected into depleted oil and gas fields in the United States, Norway, Algeria and China to help maintain reservoir pressure and sweep the remaining hydrocarbons toward producing wells. The U.S. already has almost

mately 40 to 70 percent while reducing emissions per kilowatt-hour by about 85 percent," the intergovernmental Panel on Climate Change warned almost a decade ago ("IPCC Special Report on Carbon Capture and Storage," 2005).

Carbon capture projects are focused on making the process more efficient and less expensive. One set of options centers on reducing the amount of nitrogen being processed and increasing the concentration of CO2.

One route is gasifying rather than burning the coal, turning it into hydrogen and carbon monoxide, which are then used to run a combined cycle of gas and steam turbines. The byproduct of this process is a concentrated stream of CO2, which is cheaper to treat.

Kemper is the leading example of an integrated gasification and combined

Capturing the CO2 from a typical coal-fired power plant would use 25 percent of the total electrical output from the plant.

6,500 km of pipelines dedicated to carrying carbon dioxide from gas fields and industrial facilities to oil fields in Texas and Canada for such enhanced recovery (EOR) projects. ("Comparing Existing Pipeline Networks With the Potential Scale of Future U.S. CO2 pipeline networks," February 2008).

The tricky part of CCS is capturing the carbon dioxide in the first place. CO2 can be separated from other gases using amine or ammonia scrubbers, which have been around for decades. The problem is how to do it efficiently.

When fossil fuel power plants burn coal or gas, four-fifths of the air that passes through them consists of nitrogen, which plays little part in the combustion process. Just one fifth is oxygen, which reacts with the hydrogen in fossil fuels to produce water and the carbon to produce carbon dioxide.

As a result, the exhaust gases from a typical power plant contain as little as 3 percent CO2 for a gas-fired plant and 15 percent for a coal-fired one. The rest is mostly nitrogen with some pollutants.

To treat all this gas, scrubbers have to be very large to separate out the small proportion of CO2 from the much larger amount of nitrogen.

Scrubbers require a lot of energy. A typical scrubber will have large fans to blow the gas through the unit; pumps for all the water; a stripping unit to regenerate the chemical solvents; and a compressor. The entire process is energy intensive, especially regenerating the solvent by heating it to between 100 and 140 degrees Celsius in the stripping unit.

Capturing the CO2 from a typical coal-fired power plant would use 25 percent of the total electrical output from the plant, something known as the "energy penalty." Given that a typical coal-fired power plant is only about 33 to 40 percent efficient anyway, the loss of a quarter of its net power output is a major barrier to the commercial application of CCS.

"For a modern (high-efficiency) coal-burning power plant, CO2 capture using an amine-based scrubber increases the cost of electricity generation by approxi-

mate power plant with carbon capture. A big drawback is that gasifiers are expensive to build and run, as Kemper has illustrated. And integrating the process so that the gasifier, gas turbine, steam turbine and CO2 capture unit all work seamlessly is a major challenge. Kemper's ability to make it all work as planned has yet to be determined.

Another option is to burn the coal or gas in a nearly pure stream of oxygen, rather than ordinary air, a process known as oxyfuel or oxycombustion. That requires an air separation unit to produce oxygen in the first place, and separation units require lots of energy.

In Britain, a consortium of Alstom, Drax, British Oxygen Company (BOC) and National Grid plan to build an oxycombustion plant in North Yorkshire equipped with CCS and have secured financial backing from the British government and the European Union.

In the United States, the Department of Energy is backing the FutureGen 2.0 project in Illinois, which would also employ oxycombustion. A different approach is to try to make the power plant more efficient so that the energy penalty accounts for a smaller fraction of the usable output.

Super-critical and ultra-supercritical coal-fired power plants can achieve thermal efficiencies of up to 46 percent, compared with just 33 to 39 percent for an ordinary plant. If they can ever be made to work, advanced ultra-supercritical plants could push efficiency to 50 percent or more.

Coupling carbon capture with a super-critical or ultra-supercritical coal-fired power plant would make the costs much less forbidding.

Even so, CCS plants will be expensive to build and run compared with today's coal-fired power plants.

The only way to cut these costs is to start building many more power plants with CCS and learn how to build and operate them more efficiently.

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A consensus for giving BRICS more leverage

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First, they tried to work inside the system by proposing reforms that would grant them more say in voting procedures. However, the U.S. Congress has failed to approve the small stepwise reforms of that process — even though U.S. would have kept its veto power.

BRICS and other emerging market nations also joined the Group of 20 in hopes that it would be a more pluralistic venue for global cooperation.

The G-20 did hold a landmark 2009 meeting where a new vision was articulated for global economic governance, but none of the promises — especially the coordination of macroeconomic stimuli to recover from the crisis and comprehensive reform to prevent the next one — were realized.

Now the BRICS are taking matters into their own hands. Their governments have been diligently putting together two new institutions that hold great promise — a new development bank and a new reserve pooling arrangement. The development bank would provide financing to BRICS and other emerging market and developing countries for infrastructure, industrialization and productive development.

This will give BRICS more leverage — and an opt-out if the industrialized countries stay set in their ways.

When these institutions are launched in Rio this month, BRICS could and

should forge a "Rio Consensus" — provided they do not make the same mistakes of other, mostly Western-inspired "models" in the past.

The key is to make it a model for global economic governance in the 21st century. The key elements of a Rio Consensus are a definite step in that direction. At its core is a commitment to financial stability and productive development in a manner that is inclusive, honors human rights and is environmentally sustainable.

Organizations carrying out such a mission should also have a more equitable organizational structure with open and transparent rules. This crucially includes the mechanism for picking leaders and a more equal voting system for existing and new members.

Not only will such a framework and structure enable more appropriate finance for development and stability, it can also serve as a moral model of reform that can someday be achieved in the two Washington-based institutions for existing and new members.

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CESAR
CHELALA



New York

One of my most persistent memories of my friend Dr. Albert Sabin, who developed an oral vaccine against poliomyelitis (polio), was — when we'd meet after one of my health-related missions overseas — his questions about the polio situation in the country I had visited.

I am sure he would be dismayed at the return of polio in many countries, and even more so when he learned that this phenomenon is due to the spurious use of public health programs.

In July 2011, an investigation carried out by The Guardian revealed that the CIA had organized a false vaccination program where Osama bin Laden was reportedly hiding, as a way to obtain DNA samples from the al-Qaida leader's family. The CIA had been monitoring the compound where bin Laden was believed to be living, but the agency wanted confirmation before mounting a risky operation in another country.

If it could be obtained, DNA from any of bin Laden's children could then be compared with a DNA sample from a bin Laden sister who had died in Boston in 2010, to establish that the family was then at the compound.

A Pakistani doctor, Shakil Afridi, organized a hepatitis B vaccination campaign to be carried out at Abbottabad, the town where bin Laden was believed to be hiding. Health workers were

among the few people who had visited the compound before to administer polio drops to some of the children.

After the deception was revealed by the British newspaper, however, the ruse had an unexpected outcome. Angry villagers in several tribal areas on the Afghan border chased away legitimate health workers. They accused those workers of being spies who wanted to gather information on the people living in that region. The unfortunate result is that many children were not vaccinated against polio. The disease made a comeback in areas where it had been practically eliminated.

Paradoxically the cover used by Afridi wasn't the polio vaccine but the hepatitis B vaccine. "They could hardly have been a more stupid venture, and there was bound to be a backlash, especially for polio," stated Dr. Zulfiqar A. Bhutta, an immunization expert at Aga Khan University in Karachi, Pakistan.

According to many experts' opinion, this provoked one more setback in the war against polio that, by many assessments, could have ended in 2000.

For many years, polio immunization campaigns have been a source of controversy among Muslims in many countries. Rumors associated with the vaccine — that it carries HIV, that it is unclean under Islamic law or that it is a Western plot to sterilize Muslim girls — have led to many people in Muslim countries to reject the vaccine. This has resulted in the resurgence of polio in those countries.

This is the case of Nigeria, where in 2003, the governors of three states in northern Nigeria — Kano, Kaduna and

Zamfara — decided to suspend polio immunization until the vaccines were investigated and proven safe.

Although tests conducted at the National Hospital Abuja and at a lab in South Africa showed that the vaccines were uncontaminated, the Kano government declared that its tests showed the vaccine contained estrogen in quantities that could lower fertility in women.