

The Future of China's Military

Dr. Bernard Cole

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Moderator: I'd like to welcome you all to today's session on the future of China's military. My name is Doug Burkey. I'm with the Air Force Association, in charge of government relations. And our speaker today is a Professor of International History at the War College in Washington, D.C. He has concentrated on China and Asia, and he's the author of five books in related topics, and he served in the U.S. Navy. He'll make his presentation, and if time allows we'll do some Q & A. The rules of engagement on that; just please stand up and he'll call on you. Please project - because we don't have mikes in here - so everybody can hear. And without further ado, I'd like to introduce Dr. Cole.

[Applause].

Dr. Cole: Thank you very much. Well thank you. I'm honored to be asked to be here today.

First, the People's Liberation Army, of course, is the generic term for all the military forces of China. We'll talk about the People's Liberation Army Navy, the People's Liberation Army Navy Air Force, and the People's Liberation Army Air Force. We won't get into their Marine Corps.

The first - what I hope to do today is first discuss briefly some of what I think are Beijing's national security concerns. And when I say I think, I'm always very much aware every time I visit China, which is usually once or twice a year, at how much I don't know about the Chinese military.

We often hear about China not being transparent about their military. Well I'm not a real strong supporter of that belief, because I think if we simply had more Chinese linguists available to read and translate and interpret a tremendous amount of material that's out there in Mandarin, we'd know a lot more. We'd appreciate there's a lot more out there on the street than we often think.

Having said that, there are some areas where our knowledge is very uncertain. If you ask me how many personnel, for instance, are in the Chinese Air Force, I can cite sources that will go everywhere from 380,000 up to 440,000. So bear with me as we go through.

The first thing to bear in mind, as shown on this map, is that China historically has been a continental nation. That is, their attention, their concerns about national security have been focused on possible land invasion, primarily from the north and from the west. And I think we still see that reflected in the way that their 2.3 million person military is allocated among the services as we get into it.

First, national security goals. I think the number one national security goal in Beijing is keeping the Chinese Communist Party in power. I don't think that's just hypocrisy on that part. I think the CCP really believes that everything that has happened in China in the last 50 or 60 years has been due to them. Frankly, that's ridiculous, but I think the belief is sincere.

The Chinese Communist Party is hardly Marxist in any terms we'd understand. In fact, a good friend of mine who is on the faculty at MIT is fond of saying that there's more orthodox Marxists on the streets of Cambridge, Massachusetts than there on the streets of Beijing. [Laughter].

The population of China is probably about 1.3 billion. The Communist Party membership - the last figure I saw was 73 million. Very few people join the Communist Party because they're orthodox Marxists; rather, they join because they want to get promoted from colonel to senior colonel, or they want to do well in the civil government, or they want to get big contracts with the government.

This refers, and I'll mention this on the next slide also, keeping the party in power means domestic peace and tranquility. And this has direct implications for the Chinese military. And it's going to continue having direct implications.

Secondly, I believe that Beijing wants China to be an East Asian power. Not necessarily to have sort of complete military superiority over everybody else in East Asia, but I think Beijing does not want to have to face events in East Asia of which it does not approve.

And third, it wants to be recognized as a world power. This is one of the reasons the Olympics was so important for China. In fact, I think the Olympics were more important for China than they've ever been for any other country.

Now how does this relate to China's military? At last year's Party Congress in the fall of 2007, President Hu Jintao, indicated that he had two national preferences.

Number one was doing well economically, keeping the economy progressing well, and modernizing and expanding. And I think this goes directly to the point about keeping the population of China happy and optimistic.

If we look back through the thousands of years of Chinese history, I think every time there has been a change of dynasties, and there has never been any peaceful change of dynasties, one of the factors has been popular unrest. And that popular unrest has very often been accompanied by some sort of religious phenomenon and also by economic problems with the population.

Part of keeping the economy strong, and modernizing, has to do with energy. Beijing is very concerned about energy security. Perhaps we can talk more about that later.

China's military - I'll have a slide here in a minute - that talks about lessons learned from some of the last half-century of military conflicts about and around the world. It is very concerned, despite its heavy army orientation, about improving its capabilities with the air force and at sea.

Now, the most immediate concern remains Taiwan. Secondly, there's concerns about the East and South China Sea. They have territorial disputes in the East China Sea with, primarily with Japan, less so with the two Koreas. And in the South China Sea, of course, they have disputes with several other nations.

Now, if I were a Chinese naval planner right now and looking beyond Taiwan, and that's really the strategic situation facing the PLA today, given what's going on with Taiwan. It's not so much how are they going to prevent Taiwan from becoming de jure independent as well as de facto independent, but rather once Taiwan is resolved, what next? How do you continue justifying increasing budgets with your civilian National Command Authority if Taiwan is no longer a problem?

They've got the East and South China Sea concerns. Neither one of those directly concerns the United States. The East China Sea bears some potential if something were to break out active between China and Japan, and Japan would try to invoke our mutual defense treaty with them. The South China Sea would become a direct concern of the

United States if China attempted to interfere with the free navigation through the South China Sea.

So if I were a Chinese naval planner, and being aware of the concern for energy security, I'd be looking at possible defense of the long sea lines of communication that run to the Persian Gulf area.

And finally, there's the whole issue of space. Not an area I concentrate on, but this is certainly one of the lessons learned that China drew from Desert Storm and succeeding conflicts in which the United State has been involved. It has to do with what they consider to be our overwhelming dependence on space. Hence, we saw the satellite shoot last year.

I mentioned Taiwan. Taiwan's strategic position is almost hopeless vis-à-vis China. As you can see, 81 nautical miles, 200 miles, 145 miles; the whole island essentially is under the air defense umbrella of the mainland.

Now, how does Beijing view the competition? Number one of - well, let me back up a minute.

The first time I visited China's National Defense University in 1993, I was with Lieutenant General Paul Cerjan. He was then President of our NDU, and he asked his counterpart, well what are the threats to China's national security, and they mentioned Japan, Russia, and India. They were too polite in General Cerjan's face to mention the United States.

They are no longer that polite; they're much more confident. When I was over there in 2006 with Lieutenant General Dunn, he basically asked the same question. And this time they started off with the United States. It had nothing to do with Lieutenant General Dunn; that simply reflects the increasing confidence, I think.

1993 also was, I think, the first year in which we saw double-digit increases in the defense budget in China. It was either '92 or '93. Now, in those days most of that increase was spent on doubling officer's salaries and on combating the inflation which China then faced. And I'll talk more about the budget later on.

So I think one of the results of the 1996 Taiwan Straits crisis - you may recall that's when, in an attempt to influence the democratic elections on Taiwan, Beijing fired some M9/M11 missiles near Taiwan, held extensive exercise on the Fujian coast, right across from Taiwan, and

in response to that pressure the United States, President Clinton, dispatched two aircraft carrier battle groups to the area.

I think one of the lessons that China learned from that was if they were going to take any military action that involved flying through the air or crossing the sea, they needed either U.S. acquiescence to it or they needed somehow to prevent the U.S. intervention.

Japan. The Chinese are convinced - I think almost every military officer there I've talked to - is convinced that Japan will once again become an aggressor in East Asia, and that the United States is naïve to rely on Japan as a long-term ally. Now, when you ask the Chinese you say, wait a minute, Colonel, do you really think that Japan is once again going to invade China? You don't get a rational answer.

Secondly, Russia. You know, as far as I can tell there have not been, at least reflected in the open press, there have not been any deliveries of Russian military equipment to China since about November of 2007. I think that - and we also see after the Russian incursion into Georgia - a complete lack of Beijing support for that incursion. We'll talk a little bit more about that later.

I'm not surprised at this. If we look at history, going back to the 12th or 13th Century, we find that the period from 1990 at least to 2007 is the longest time in recorded history that Russia and China have been strategically close. So I wouldn't at all be surprised if that relationship is on the verge of breaking up.

Finally, India. China - excuse me - China's primary concern with India is the nuclear weapons that India has. This is - I'll mention two addenda to that. Number one is that Pakistan and India, of course, have a long-term hostile relationship and Pakistan has a very close relationship with China. Secondly, I mentioned the sea lines of communication through the Indian Ocean. The Indians, of course, take the name of that ocean literally, and any attempt by China to project naval power into the Indian Ocean is going to have to confront the fact that India is right there in the middle of the IO. So they are concerned about India.

Now let's turn to the makeup of the military. Let me note that the 2.3 million persons in the Chinese military include civilians, primarily uniformed civilians. Now we're not really sure whether this would equate to us counting every civilian employee in the Pentagon as a

member of our military or not, but there are some who think we should.

Out of that 2.3 million, notice that a million and a half are in the ground forces. The PLAF is probably about 400,000. The People's Liberation Army Navy, 255. That includes about 10-12,000 marines and probably about 20,000 in the PLAN Air Force and Naval Aviation.

The second artillery is the equivalent of the old Soviet rocket forces. The second artillery is almost a distinct service, and it controls China's ballistic missiles and nuclear weapons. The People's Armed Police is somewhere between the civilian police and the military. An awful lot of the PAP are in fact former PLA members. That shows how inexact our knowledge is of the numbers in the PLA, in the PAP.

When you read about incidents of civilian unrest in China, one way to try to gauge how serious it is is to see who responded. If it's handled by the local police, fairly low-key. If it's handled by the People's Armed Police, it was more serious. And if they have to call in the People's Liberation Army, then it's very serious.

Reserves also very much an estimated number. The militia is even more loose. I was in Qingdao in northeastern China, which happens to be the home port of the North Sea Fleet. China's Navy is broken into three fleets, and the vice mayor of Qingdao insisted that their maritime militia, and I couldn't get a figure out of her, in fact was very well organized and exercised regularly. I find that hard to believe, frankly.

And notice the minor role for women. If you aboard a Taiwanese navy ship, probably one or two of the department heads on that ship, lieutenants, are going to be women. The only women I have ever seen in uniform in China have either been PhDs at, say the Academy for Military Sciences or the Naval Research Institute in Beijing, or they've been serving tea. I have never seen a woman in an operational unit in the PLA.

Now these are some of the events I referred to earlier. This refers to China's incursion into Vietnam in 1979 when their planned six-day campaign took 10 weeks to execute. And that was against second-rate Vietnamese troops, because in those days, the best Vietnamese troops were in Cambodia beating up on the Khmer Rouge.

This highlights one point. It is there is probably almost nobody in the active military forces in China today

with any combat experience. Almost nobody. The PLAF, the Air Force was not engaged significantly in this conflict. The Navy wasn't engaged at all.

Desert Storm, of course, they - I'll talk about some of the lessons they learned from that. They were awed by what they had seen in Desert Storm for one special - especially for one reason. In 1980, when they began modernizing the economy and improving the military, after they realized how lousy they had done in Vietnam, they made a concentrated effort, we think, to try to catch up to the United States. And they realized in 1991 that not only were they not catching up but they were falling further behind. That is they were chasing moving goal posts, if you will.

The Taiwan Straits crisis, I mentioned, in 1996. I think this is going to prove - you may recall, some historians think that after the 1962 Cuban missile crisis, that the lesson that the Soviets learned from that was they needed a big navy. And they needed to improve their military dramatically.

A few years from now, we may look back at this 1996 Taiwan Straits crisis and decide that the PLA also took that sort of lesson from that crisis. They realized how basically helpless they were in the face of U.S. air and sea power.

1999 Kosovo. The air campaign there simply, I think, reinforced in the PLA's mind the lesson they saw in Desert Storm, which was again, how far behind they were.

And I think the import of these lessons - and Afghanistan and Iraq basically reinforced that - is that they're not going to try to catch up to the United States. They are not going to make what they believe was a Soviet mistake of trying to match us airplane for airplane, missile for missile, ship for ship. But rather, I believe, the PLA is concentrating on specific scenarios - Taiwan, most currently - in which they want to be able either to prevent U.S. intervention or counter U.S. intervention to the extent that they can achieve their security goals in that specific scenario.

I think these are some of the lessons they learned. The importance of air power. One of the slides I'll show later demonstrates increasing flying hours for their pilots. If you asked me, or one of the people who really focused on the Chinese Air Force how many flying hours one of their fighter pilots might have gotten 15 years ago, the answer probably would be about a hundred annually. Today,

it's probably closer to 160.

The importance of C4ISR. The importance of logistics. One of the things I think that awed the PLA after Desert Storm was how we were able to mount that operation basically on the other side of the globe from us. And this is something they're trying to take heart, and I'll talk later about some of the steps they're attempting to take to do it.

And also the importance of space. We began reading articles in the open press during and after Desert Storm by PLA writers who - articles along the lines of wow, look at the great advantage the United States and its allies is getting out of space-based assets. But hey, if they're so dependent on space-based assets this is a great vulnerability, so all we need to do is knock down their space assets and we can beat the United States. And it took them a long time, if we look at '91 to last year, before they actually were able to knock down one of their own satellites, but this has been a long-term ambition of the PLA.

And I think the biggest lesson they learned was avoid the U.S. strengths - sea power and air power primarily.

Now, the modernization of the PLA, as indicated, probably started 25 years ago. More recently, it's been increasing because the PLA simply has been getting more money. They have double-digit increases in their budget every year for the last many years.

Now interestingly enough, I don't think that that means that the percentage of China's GDP devoted to PLA modernization has increased. But because the GDP is growing so well, so fast every year - double digits, many years - it means that that percentage of the GDP is increasing, that the total amount is increasing. Not the percentage being devoted to military modernization by the leadership in Beijing. Because I think the number one concern still remains keeping the people satisfied.

They're spending a lot of money on submarines. I think this goes directly to the expected Taiwan scenario, and I think they've decided the best way to prevent timely U.S. intervention, if military action breaks out over Taiwan, would be to put a couple of dozen submarines out there that we can't find immediately, just to slow down intervention. So they're investing heavily in both indigenously built, conventionally powered submarines and nuclear-powered submarines that they're probably building with a lot of Russian assistance.

Ballistic missiles. There's probably right now about a thousand M9/M11 short-range ballistic missiles stationed on the Fujian coast right across from the island of Taiwan as a deterrent force. There's also ballistic missile developments in two other areas of note. One is as possible weapons to be used against aircraft carrier battle groups. This is a very hard targeting problem, of course. The idea is after the missile re-enters the atmosphere you're able to retarget it. You're able, first of all, to track a carrier and retarget the missile, the ballistic missile, accurately enough to find and hit the carrier. A very difficult technical problem obviously, but probably one that can be solved eventually.

Their attempt to modernize their fighter and strike air, their tactical air aircraft inventory still relies very, very heavily on Russian and other foreign assistance. They've also gotten very slowly into improving airlift, primarily with IL-76 aircraft from the Russians, and also some aerial refueling. They've also been using, I believe, a version of the IL-76 air frame as air refuelers. They've seemed to be doing this at a very slow pace.

When I visit a squadron, an air division, and Ralph [Giotis] may have more, better information on this, but when I visit a squadron over there - an air division, rather - and you say, well how many of your pilots are qualified in air-to-air refueling, you never get a very significant number. Now maybe they just don't want to tell me. I'm not naïve enough to believe they're going to come clean every time. But they are moving into that area.

I suppose one of the reasons that they're being slow there is that Taiwan's really close. You don't need to worry about air-to-air refueling, particularly if your number one priority is Taiwan.

Logistics. This is interesting in that they see the need to improve their logistics, and they're trying to do it sort of in concert with the civilian economy. So if you look at the navy's refueling piers in Qingdao, for instance, you find direct tie-ins with the civilian refueling infrastructure. When you read accounts of their exercises for all the services you very frequently see mention of drawing on the resources of the local civilian population. It's sort of a reversion of Mao's old people's war theory. Not that you're going to take the civilians, hand them a rifle, and put them in the field, but rather if there is a military effort undertaken by Beijing, that they're not going to hesitate to draw to the maximum extent on civilian resources.

And space-based assets. I don't have a good idea how they're progressing with that, except to understand that they think it's important.

Very briefly, for each service. I mentioned submarine construction as a priority for the navy. Last year, they began putting out some destroyers that appear to have an Aegis-type radar on them. A very significant surveillance force, survey ships of various sorts, emulating the old Soviet model in this respect, and this is also the number of ships that they send against the Japanese. Typically, they'll build an oceanographic survey ship that can simultaneously scour the ocean bottom looking for possible petroleum deposits but at the same time mapping the ocean bottom for submarine navigation and possibly anti-submarine warfare.

I mentioned logistics. One of the key things I look at when I try to decide how the Chinese navy is progressing towards developing a power projection force is how many replenishment-at-sea ships they have. And right now they've got a total of five, two of them very small. So they don't appear to be devoting a lot of time and money towards building up their replenishment-at-sea fleet.

By the same token, however, we see the same civilian linkages developing in maritime logistics as we do in some of the other services.

I think that the biggest progress, the most significant progress we've seen in this decade in the Chinese Navy has nothing to do with hardware. It has to do with enlisted and officer accession, training, and education.

You may recall that in 2003, there was a Ming-class submarine, and of rather old design, a conventionally-powered submarine, where the crew died. The ship itself was floating on the surface. The crew, apparently through a personnel error that our submariners find almost impossible to believe happened, but they lit off the diesel without the fumes having any exhaust route, so they basically killed everybody on the ship.

The primary result of that was a complete overhaul of the Chinese navy's maintenance and organizational basis, similar to what some of you in the Navy may recall happened - well, none of you personally recall it, I'm sure - but way back in the '60s, we moved away from naval districts and we changed the way we administered and trained our ships. And they've done something quite similar. I think

we're seeing some distinct changes in the way the navy is able to operate, because of that.

That's the Variog, the ex-Soviet carrier, which is still in dock up in [Dalian] up in Northeastern China. It depends on who you read as to what they're going to do with it. I would guess that they're probably going to get it into shape so they can at least use it as an exercise platform for future naval aviation.

Ironically, that's the kind of airplane that collided with EP-3 in 2001. I can't get over the fact that the name of the Chinese pilot who was lost at sea was Wang Wei. [Laughter]. The navy, the - W-A-N-G, and then it's - and then first name W-E-I.

The navy version of this aircraft is used with cruise missiles, and they use the surface attack against maritime targets. Army; there's a real transformation going on in the ground forces. These are the best numbers I have. A former Army FAO who now works full time as a civilian analyst. What they're doing is getting away from the old corps/division structure and going, trying to get to a much more flexible organization throughout their army.

What's remarkable, I think, about the PLA today is how little attention they're paying to Special Operation forces and to helo lift. Two years ago I visited a 47th Group Army at Wuhan, outside of Wuhan in central China, and the division commander had been in command two years, or the group army commander, rather, had been in command two years and had never conducted a large-scale exercise with helo lift. When they went to a different exercise area, they either used trains or trucks.

In fact, there was just a report in the open press last week talking about a very large-scale exercise in Northwestern China, in which - obviously, they were bragging, or the PLA guys were trying to brag about how the fact they put this whole bunch of troops on a train and took them to the exercise area.

About 200,000 troops are dedicated to border defense. I suspect a goodly number of those are along the North Korean border. It has been several years now since the People's Armed Police was relieved of that duty by the People's Liberation Army, thus demonstrating Beijing's concern with that particular border area.

Second artillery. The DF-9s and 11s are the missiles I mentioned opposite Taiwan. The DF-21 is apparently the nuclear-capable missile that they're trying to develop into

an anti-aircraft carrier weapon. The DF-31 is their ICBM, road mobile that they're building. The DF-31 Alpha, which we used to call the DF-41, is probably going to be a longer range version of the DF-31, able to reach - possibly scope the entire United States - and this also is going to be road mobile. And these two birds are both solid fuel. Previously ICBMs, about 24 of them, were liquid-fueled missiles.

This is the B-5, and there's a navy version also that carries cruise missiles; it's just the old Soviet Badger aircraft. If you look at the fighter attack, you see again almost - almost everything up there in fact - almost total reliance on foreign technology. The SU-27s, the SU-30s, and the J aircraft. The J-10 and the J-11 are nominally Chinese air - I've got some pictures here in a moment.

The helicopters - the Chinese are building them, but they're all foreign designs. The transports are all Soviet designs, and the AWACS - and I don't know how many. There may be four of them; one of them crashed last year with supposedly with 40 people on board. Now either it wasn't an AWACS; either it was a transport or all the lab guys were on, you know, going for a demonstration flight. There may be four of those right now.

Twenty-seven, 30s. I think those are Indian 30s. This is the 10, 11. This is the one that they're selling to Pakistan. The Pakistan Air Force is not enthusiastic about it.

And this is supposed to be a picture of their AWACS. Basically a 76 airframe with probably a Soviet or - the Chinese claim they have built the radar themselves. Usually when they say that, it's reverse engineered or just a copy of a foreign unit.

I mentioned flight hours increasing. The Chinese Air Force is responsible for the air defense of China. And I don't have a clear picture of how operationally the naval aviators work with the air force. My impression is that the air force is in charge.

You know, China is divided up into seven military regions, and three of the coastal regions each have a fleet; the North Sea fleet, the East Sea fleet, the South Sea fleet. And each of the military region commanders also has a deputy who is an air force general. And you also have to bear in mind all seven military region commanders are army generals, usually lieutenant generals. So the army is dominant.

And when you look at the headquarters of the People's Liberation Army, the headquarters of the Uniformed National Defense structure in China, once again, is almost completely army guys.

We've observed a lot of operations at low altitude, IFR Ops. Fifteen years ago, the PLAF did not fly over the water. You know, you can get lost. Now they do it routinely. And there also are these coordinated ops with naval aviators and ships. And from a naval perspective, they do have relatively few helos. All their new ships are being built with flight decks and helo capability, usually just one helo for anti-submarine warfare, electronic warfare, the typical missions.

I don't know about fixed wing. I'm convinced that within ten years, say, that the Chinese will have some sort of fixed-wing-capable ships at sea, probably a smaller ski jump, ski ramp sort of carrier.

Security concerns. Border defense, Russia. India I mentioned.

Central Asia. China and Russia together formed in 1998 something called the Shanghai Cooperative Organization, which includes most of the 'stans - that is the former Soviet republics - and several of the other nations in Central Asia. I'm convinced that this really represents a quiet contest between Moscow and Beijing as to who's going to gain control of the energy resources in that part of the world.

At a recent SCO meeting two weeks ago, Moscow tried to get support from the SCO members for their actions in Georgia. Not only did they get no support from the former Soviet republics, not surprisingly, but Beijing refused to support them as well. They tried to be nice about it, but there was a clear break there.

East and South China Seas and the sea lines of communications, I mentioned.

So they're modernizing; there's no question about it. They're getting better equipment. They're flying more. The ships are steaming more. In looking back on my visits on various Chinese ships or visits to different air divisions, you can see this progress. It's not dramatic.

About, let's see, 2002 I visited the 28th Air Division in Hang Zhou near Shanghai. They were flying the old A-5s; very old attack aircraft. This past May when I went to China with Major General - I took some students from the

War College and also Major General Bob Steel, who was our commandant. We also visited the 28th Air Division, and now they had transitioned to the F-7s, the so-called flying Leopards. And down at the end of the flight line, there were about two dozen A-5s sitting there.

Now I mentioned earlier our difficulty in figuring out how many aircraft were in the order of battle. Well, they may have counted those A-5s in the order of battle, but I tell you looking at those A5s, they were not going to fly again. Not in our - you know. They were done. So they are improving.

And I'll also - you know, I keep mentioning the fact of how reliant they are on foreign technology, and they are. But having said that, there also has been a quiet effort to attempt to increase their indigenous capabilities. To me, I think most dramatically in shipbuilding and some of the systems they've been able to copy or reverse engineer, or build modifications of.

As far as aircraft are concerned, however, my impression is that they're still well behind a power curve on developing their combat aircraft, indigenous industry. They build SU-27s under license from the Russians, but even there I think that they still rely very heavily on Russian expertise.

The goal. Again, dominant military in East Asia. In other words, they don't want to go up against the United States one on one. They do want to be able to go up against Japan one on one, I think. And that's - and maybe India one on one - and I think they're within reach of doing certainly India. I'm not so sure about Japan. You know, assuming Japan continues modernizing and devoting necessary resources to its military.

If we look at a particular contest with the United States, it depends not so much on comparative combat experience or technology. I think we're still years and years ahead in that, but rather on the availability of forces on a given day in a given scenario. I think it's more that sort of tie-in.

I'm happy to entertain any questions or comments or disagreements. Thank you.

Yes, Sir, in the back.

Question: [Inaudible]?

Dr. Cole: We read an awful lot about this. The

tremendous publications on the importance of information, the information spectrum on information operations, both in terms of using it themselves - for instance, they've gone very heavily to cables to get away from our ability to intercept radio transmissions and so forth - but also as a way to counter us.

Now, there's a fellow here in town, James Mulvanen, who's probably the local expert and one of the leading American experts on their ability to conduct information warfare, and James thinks they have developed, in fact, a great deal of expertise.

Part of the problems here, from a strategic perspective, is if you're getting interfered with, be it the Naval War College or the National Defense University, last year for instance, is that a bunch of high school hackers or is it officially-sanctioned policy on the part of Beijing? It's a very gray nebulous area. It's something we really need to be paying a lot of attention to, because clearly the Chinese are.

Question: How much of this technology is evolved from us?

Dr. Cole: Well, back there in the '80s when it was China and the United States against the Soviets, we did provide some Blackhawks. You may have noticed the UH-60s there on that slide about helicopters. Their Blackhawks are grounded now because we won't sell them spares. We gave them some Mark 46 torpedoes, one of the early Marks, early mods, rather, some counter-mortar radars, and some other stuff. I don't know that they're benefitting - certainly not directly - are benefitting very much from U.S. technology.

Yes, Sir?

Question: Dr. Cole, how would you assess China's capability to think, plan and implement strategically where the strategic timeframe may [inaudible]?

Dr. Cole: Well it's popular to say that Chinese culturally think in terms of hundreds of years, whereas we think in terms of decades or even here in the Pentagon, at least when I was in the Pentagon as a Navy bean counter, tomorrow afternoon was usually as far as my imagination could stretch. [Laughter]. I think we overplay that. I don't, frankly, think they're any more capable of thinking in those sorts of terms than we are.

The Chinese still talk overwhelmingly, for instance,

about the hundred years of humiliation. This is the period of time from about 1840, the opium wars, to 1949, when the People's Republic of China was established by the Chinese Communist Party. And I've often asked Chinese interlocutors, given the thousands of years of Chinese history, during a good portion of which China was the world's leader in terms of military expertise, technology, education, and so forth, why do you guys keep focusing on the so-called hundred years? And I never get a satisfactory answer. So it seems to me if they were really thinking in such long terms, they wouldn't focus on the relatively brief period so much.

You know, I've testified before Congress on the Chinese budget cycle, particularly the navy's budget cycle. And I don't have good answers, except to say, as I believe, that the budget resource allocation decision-making process in Chinese military headquarters is not all that much different that it is in the Pentagon or anybody else's military headquarters, where the army and where the services are fighting each for the available dollars and trying to justify increased budget resources by developing missions that they believe will appeal to the civilian leaders and fulfill what they believe to be China's national security concerns.

Yes, Sir?

Question: Yes. You commented on the focus on training and personnel. I was wondering on the army side, if they've developed training centers similar to NTC or JRTC to share lessons learned and develop a professional NCO corps?

Dr. Cole: They have, in fact. Up here in - let's see if I can find the laser on this. Guess not. Up here in the central northern part of China, there is one very significant training area. The navy also has training areas off the coast. They have visited our training center, and they are definitely trying to emulate it.

I don't how much progress they've made in terms of instrumentation and so forth. I do know that they've got an instrument at torpedo range up here in the Yellow Sea, up near [Dalian], up there just southeast of Beijing. So they're definitely trying to develop that.

Yes, Sir?

Question: [Inaudible] in China. How reliant are they on [inaudible]? I remember [inaudible]. [Inaudible]. Is there any update on that? Have they claimed the islands

[inaudible]?

Dr. Cole: The Chinese are concerned about energy security, but I think they define that in three ways. Number one is availability of energy. Number two is the affordability of energy. And way number three is the military security. And I say that because one of the ways that they're trying to beat those first two issues is by building strategic petroleum reserves, much as we did.

They made the decision in the 1990s to build a series of strategic petroleum reserves, but they decided to delay the construction until the price of oil came down. [Laughter]. They now have built four - all strategic petroleum reserves. The idea is eventually to have 60 days or 90 days of petroleum available, depending on which account you read.

The first four strategic petroleum reserves are above-ground tank farms along the coast. Obviously, almost no concern for military security.

Less than ten percent of China's daily energy requirements comes from imported oil. That's because over 70 percent of China's daily energy requirements come from indigenous coal. So while they're very concerned about imported oil, especially that that comes by sea, I really don't think it's a critical issue.

The South China Sea issue is that China, Taiwan, and Vietnam claim all the land features in the entire South China Sea. The Paracel Islands in the North, the Spratly Islands - let's see here - get back to that first chart.

[Pause].

We've got the Paracel Islands up here and the Spratly Islands down here. The Philippines, Indonesia, Brunei, Malaysia claim other, some of these land features. But only China, Vietnam and Taiwan agrees with Beijing, claim the whole thing.

Now they haven't made clear whether they claim the water areas or just the land features. If they claim the water areas, then it could be a serious issue because that would violate or challenge the U.S. concern about freedom of navigation through there.

Petroleum and natural gas have long been recovered from areas along the southern Chinese coast and along the Vietnamese coast, and obviously just north of Borneo there. Nobody has discovered any significant energy reserves in

the central part of the South China Sea - the Spratly Islands - and the Japanese started looking for it in 1936, so there's probably not much there.

Yes, Ma'am?

Question: How do you think that [inaudible] submarines [inaudible]?

Dr. Cole: I'm not sure how - I don't know that it was next to the Kitty Hawk. For one thing, the Kitty Hawk was out there with one guy in plain guard, in life guard, just conducting carrier qualifications, so they did not have an ASW screen around it.

Although I have to confess, I spent most of my career trying to find submarines, and there's still nothing harder to do, as far as I'm concerned, you know, at sea.

We don't know whether the submarine deliberately came up within ten nautical miles of the carrier, whether it knew the carrier was there, whether it did so on orders from Beijing, whether the CO just did it, whether he had a mechanical problem. There's lots of unknowns about that.

Obviously, I don't see the intel stuff. So maybe we know more than I do, but I don't have any answers to that.

The lesson, however, is not that particular incident so much. The lesson is how effective submarines can still be at slowing possible U.S. naval intervention into scenario in a given region. As I said, finding and localizing and possibly attacking submarines remains extremely difficult.

Yes, Sir? In the back.

Question: [Inaudible]?

Dr. Cole: Still very rudimentary. They're getting better. You read a tremendous number of reports how they conducted joint operations. I think it's still more a fact that you might have a ship and an airplane in the same part of the geography at the same time, doing exercises, rather than what we would consider to be true joint operations.

You get into translation problems here, but I do think that they write a lot about the importance of joint operations but they're nowhere near where we are. That's for sure. They've got a long way to go.

Yes, Sir.

Question: Sir, can you discuss any of the proposal on [inaudible] warfare and [inaudible]?

Dr. Cole: Yeah. This refers to a book that was published about, it's got to be over ten years ago now by two Air Force PAO colonels, and it was deliberately leaked to a New York Times correspondent. And the thrust - and those two guys, by the way, did not become general officers - they're off doing whatever now. The thrust of the book, however, was that if China was challenged in a military fashion, that China would not be restricted to traditional military efforts, that information warfare, terrorism, what we would term criminal activities, anything would be fair game in order to achieve China's national security interest.

I believe that publicly no PLA senior officer has endorsed that unrestricted warfare. And obviously, this was way pre-9/11, and if we reread that book today, and it has been translated, we probably wouldn't be nearly as surprised or interested as we might have been back in the mid '90s. Times have changed.

Yes, Ma'am.

Question: [Inaudible]?

Dr. Cole: No. China is extremely dependent on sea lines of communication, primarily right along the coast there. I would say within 200 miles of the coast. A tremendous number of passenger ferries and cargo transport and so forth that goes back and forth. So any time they encounter any sort of piracy there, they obviously go after it.

But as far as the piracy concerns that a few years ago we experienced down around the Straits of Malacca and the South China Sea and just west of the Strait of Malacca. They never got involved in that. The efforts that were conducted that were apparently pretty effective against the pirates down there were conducted by Indonesia, Malaysia, and Singapore, with a strong Australian assist. And a lot of Japanese funding by the way. The Chinese did not want to become involved.

Yes, Sir?

Question: [Inaudible]?

Dr. Cole: Oh, I don't think we know. Right now they have apparently - they've got the old 5 Hahn-class nuclear-

powered attack submarines, which are very noisy and never - probably no more than three or four of them were ever able to go to sea at one time. And the old - modeled after the old Soviet November class, which was a very dirty sort of submarine in addition to being - dirty in nuclear power terms - in addition to being noisy. And one fleet ballistic missile submarine that never went to sea, or never conducted a patrol.

Now, they have apparently launched three or four type 093 nuclear-powered attack submarines and one, there may be two type 094 new fleet ballistic missile submarines. And apparently they're going to - right now all the nuclear-powered submarines have been home-ported up here in the north, but now they're apparently building a base for them down here on Hainan Island. The idea probably would be to - for the boomers to adopt the old Soviet bastion strategy. In other words, the ballistic missile submarines wouldn't necessarily go out on open ocean patrol. So they wouldn't be blue water.

It's too soon to tell how many SSNs they're going to build. It's easy for us to say well, we always build in multiples of three. So if they've already built three, maybe they're going to build nine. We just don't know. At least, certainly not open-source material.

Other questions? Comments? Yes, Sir?

Question: [Inaudible]?

Dr. Cole: Well, I think they're serious about putting a guy on the moon. And I think they're going to try to emulate us as far as space-based assets are concerned. It's certainly getting a lot of publicity in China. It's a source of great national pride and a way to engage the attention and sort of increase the loyalty of the Chinese people. I think they're going to remain very active in space on the military side.

Commercially, I think also we're going to see a lot of continued activity. They've got a very dependable lifter. They've got active agreements with Brazil and some others. I think we're going to continue to see a lot of activity and a lot of resources devoted to space programs.

Yes, Ma'am?

Question: Can you verify [inaudible]? [Inaudible].

Dr. Cole: Well what you have is the Chinese National Defense University is located in northwestern Beijing, and

on a separate part of the overall NDU campus but a separate minicampus is the school at which the international officers go to. And those classes are taught - last time I talked to somebody there, they were taught in English, French, and Spanish depending on the makeup of the officers.

So frankly, the picture being gotten by Latin American exchange officers who go to that international course is not - it's always useful to listen to but it's probably not terribly indicative of what's going on.

I do know, having visited some of the air force academies, particularly the technical academy outside of Xi'an, that theoretically, before you're commissioned in the Chinese air force you have to pass an English language comprehension exam. I mean, that makes sense because of the international conduct of flight. I suspect it's honored in the breach more than it is in terms of real English language comprehension. But there's a hell of a lot more Chinese studying English than there are Americans studying Chinese, I'll tell you that. And DoD right now has got a program that is going to try to correct that to an extent.

Yes, Sir.

Question: [Inaudible]?

Dr. Cole: Well, I can't think of the numbers offhand, but they have a tremendously high number of college graduates and graduate school graduates in engineering and the hard sciences. From a military perspective, back during the early to mid '90s whenever I'd interact with PLA officers, one of their standard questions was, explain ROTC to me. Explain the American military's linkages with your civilian universities.

And in fact, they have now established two or three different sorts of ROTC-like programs, primarily concentrating on various engineering universities or universities with strong engineering programs in China in an attempt to increase engineering and scientific hard-science knowledge within the military.

One of the areas we don't know a lot about is the interface between say civilian shipbuilding and navy combatant ships. How the design and the acquisition process really functions in practice. And, similarly, with aircraft. Most of the open-press stuff you see talks about a burgeoning Chinese civilian aircraft industry. Obviously, you don't see a lot of public press about

military aircraft.

I will tell one sea story, and that is I visited the Xi'an aircraft manufacturing works for the first time in 1994. And in those days, they had a contract at McDonnell-Douglas to build tail assemblies for DC-10s. And we walked in and there was the bottom half of the horizontal stabilizer, and we watched about ten Chinese pick up the upper half of the horizontal stabilizer, walk over, set it on the top of the bottom half. Another couple of Chinese came over with like a dress pattern that had where the rivet holes are supposed to be, and a guy came over there with a ball-peen hammer and a punch and punched through the rivet holes, and then they assembled the tail assembly.

There was all this equipment stacked against the side of the hangar, or the building, and I asked one of the guys, well what's that? Oh, that's the automatic equipment, but if we start using that stuff then we've got x-hundreds of guys we've got to find other jobs for.

Now I will say that there was an FAA inspection team on site, so I guess the guy with the ball-peen hammer knew what he was doing. Now they've gone beyond that.

I mean, it's similar to the shipbuilding yard in [Dalian]. There's a civilian side and a navy side. They now use lasers and they use much more modern equipment in what is the world's quickest modernizing shipbuilding industry. So they are making strides. No question about it.

Well thank you very much.

[Applause].

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