SWP Research Paper
Stiftung Wissenschaft und Politik
German Institute for International
and Security Affairs

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Military Trends in China

Modernising and Internationalising the People's Liberation Army

RP 1
February 2010
Berlin

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ISSN 1863-1053

Translation by Meredith Dale

(English version of
SWP-Studie 29/2009)

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On the first of October 2009 the People's Republic of China marked its sixtieth anniversary with an impressive military parade through Tiananmen Square. Beijing used the occasion to demonstrate the advances made by its armed forces and put on a show of strength for domestic and foreign audiences. This display of military might comes at a juncture when its rapid rise to economic great power status is provoking increasing discussion about China's significance for international stability and security. As well as speculation about a (new) global political order based on a "G2" – a division of power between Washington and Beijing – the debate also ranges over China's contribution to the global financial architecture and its role in the fight against non-traditional security threats such as climate change and transnational terrorism. How the country intends to position itself in the international security framework remains unclear. Is China really – as the leadership in Beijing never tires of stressing – pursuing purely defensive goals, or do the facts actually speak of a trend towards offensive military planning?

The steady rise in China's defence budget over recent years naturally stokes the speculation. From just $9.8 billion in 1997 it more than quadrupled within a decade, according to the official figures, to reach $46.8 billion by 2007 (although the proportion of annual GDP rose by just 0.29 percentage points over the same period). Beijing's official defence budget for 2009 is $70.2 billion, but the real level of Chinese military spending is disputed. Because they leave important expenditures on strategic capabilities and military space programmes unaccounted for, the official figures say little about the actual state of China's armed forces.

Over the past ten years, under the leadership of the Chinese Communist Party, the People's Liberation Army (PLA) has undertaken considerable efforts to modernise and enhance its force projection. It is also showing the first signs of a more international orientation by increasing bilateral cooperation and starting to participate in international operations. These developments raise numerous questions: What ground rules does the Communist Party lay down for

the defence sector in a rising modern China? What strategic objectives can be deduced from the changes that have occurred to date? What do the military advances mean politically? What role is played by the growing international activities of the Chinese armed forces? Our investigation of these questions leads us to the following conclusions:

The Communist Party sees military modernisation as a part of its general programme of "scientific development", thus belonging to an overarching process of political adaptation through which China is seeking to meet the security challenges of the twenty-first century. The numerically huge forces of the Cold War era are being gradually transformed and enhanced in order to tackle international peacekeeping and humanitarian aid operations, and to bring the armed forces into the age of information technology.

The PLA is still a fundamentally defensive force, although its offensive potential is growing in the fields of nuclear weapons and space-based systems, as well as air and naval forces.

Military modernisation has progressed furthest in the realm of the strategic forces and the navy, while the greatest deficits remain in the air force, where a lack of force multipliers such as reconnaissance aircraft and aerial refuelling tankers is the main obstacle to greater strength and force projection.

The Western arms embargo ensures that the import of such force multipliers and access to the relevant technologies remain restricted. If it is in the interests of the EU and the United States to deny China access to these technologies at least in the short to medium term, the embargo will have to be maintained.

The rapid expansion of China's military capabilities has not thus far been accompanied by adequate political communication. An increase in transparency on security and military matters could help to reassure other states; effective international integration would support this process.

Growing international activities indicate that China's military strategy opens the way for loose bilateral and multilateral cooperation. In its efforts to secure international trade routes and access to raw materials, China has greatly expanded its sphere of influence, while cooperation in the context of international peacekeeping missions serves to build the image of a "responsible great power in the making".

A New Army for a New China?

Although the West has great misgivings about a rising China accumulating ever more economic and political power, Beijing insists that it is pursuing an independent, rational, peaceful and pragmatic foreign policy.[1] Nevertheless, the People's Liberation Army is the world's largest professional army with almost 2.3 million soldiers. According to the Chinese constitution the PLA operates under the guidance of the Communist Party, which is represented by cadres at every decision-making level.

The party's fundamental policy direction shifted as Hu Jintao successively took over from Jiang Zemin (becoming Communist Party leader in 2002, head of state in 2003 and head of the Central Military Commission in 2005). Although the leadership's main concern is still national economic development – continuing the trajectory that began with the policy of opening under Deng Xiaoping and continued into this century under Jiang Zemin – the Hu government has recognised that overall social stability, and the Party's grip on power, cannot be upheld without strategic modifications to domestic and foreign policy.

The country's armed forces have also been drawn into this process of adaptation. Given the continuing opacity of Chinese military policy and the absence of a clearly formulated military strategy (comparable for example to the US National Military Strategy) it is helpful to outline the concepts pursued by the party leadership and measure the discernible developments within the armed forces against them.

Framework set by the party

China is attempting to redefine its place in a multipolar world. Hu's government has repeatedly emphasised that China is following a path of peaceful development without aggressive intentions. As the defence white paper of 2008 outlines, it is about creating an environment where China's growth can continue. The document states, peace, development and cooperation are "an irresistible trend of the times".[2] Here Hu draws on traditional principles of Chinese diplomacy, which favour a passive foreign and security policy.[3] That means avoiding taking the lead on international issues and acting reservedly towards the outside world.

The modernisation of the military apparatus fits into Hu Jintao's "scientific concept of development" *(kexue fazhan guan)*. This new concept has become necessary, the white paper states, because China has reached a "new historical starting point" where exchange with the international community has created interdependencies and interests at the global level. The development of national defence capabilities has to keep pace with economic growth – a strong modern China requires a strong modern army.[4]

The "scientific concept of development" was written into the party constitution at the end of 2007 as a guide for action. It lays out a new long-term political and ideological direction, making it binding for future generations of leaders as well. Thus Hu has paved the way for his influence on the party and the country to continue even after he leaves office,[5] which puts him in the historic line of Chinese Communist thinkers alongside Mao Zedong, Deng Xiaoping and Jiang

1 *Hu Jintao's Report at 17th Party Congress* (Xinhua), October 2007, section 11, full text at http://news.xinhuanet.com/english/2007-10/24/content_6938749.htm.

2 See China's defence white paper for 2008, *China's National Defense in 2008*, Beijing, January 2009, section 1: "The Security Situation", www.gov.cn/english/official/2009-01/20/content_1210227.htm.

3 This also includes Deng Xiaoping's "24 Character Strategy" of the early 1990s: "observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; be good at maintaining a low profile; and never claim leadership".

4 Defence white paper 2008 (see note 2), section 3: "Reform and Development of the PLA".

5 A gradual transition to a new leadership generation is planned to begin in 2012. Hu's most likely successor is still Vice-President Xi Jinping, despite his surprise non-appointment to the Central Military Commission in September 2009; for more detail see inter alia Geoff Dyer, "Doubts Emerge about Beijing's Succession Plan", *Financial Times*, 20 September 2009; Michael Wines, "Party's Agenda in China Seems to Fall Flat", *New York Times*, 21 September 2009; interview with Minxin Pei, "Communist China at 60", Carnegie Endowment, 30 September 2009, http://carnegieendowment.org/publications/index.cfm?fa=view&id=23922.

Zemin.[6] Fundamentally, Hu's success indicates his unchallenged position within the party leadership.[7] The "scientific concept of development" follows Hu's "people-centred approach" *(yi ren wei ben)* and builds on the idea of a "harmonious society".[8] Hu's ideas are based on the assumption that sustainable development can only be achieved if "objective scientific laws" are followed, with "scientific" meaning a forward-looking, balanced and systematic approach. This includes the possibility of testing the usefulness of different paths for social progress, and abandoning those that prove to be unproductive.

The appearance of massive social disparities has created an urgent need for political action. The government is confronted with popular expectations that it can guarantee rising personal well-being for all, improve the mechanisms of governance and democracy, and ensure balance and stability in an increasingly differentiated society.[9] So far the biggest winners of China's economic rise have been the newly emerged middle class and the party cadres,[10] while the rural population, especially in the agricultural west far from the successful coastal industries, increasingly finds itself losing out. There is potential for internal tensions. In the areas populated by China's ethnic minorities – for example Xinjiang and Tibet – there is increasing unrest on the part of separatist forces who feel they receive an inadequate share of the economic development of the regions.[11] The social and economic consequences of the rapid economic growth of recent years have become an important factor affecting the country's national security and social stability.[12] China's government has concluded that after decades of emphasising economic expansion, a new development path needs to be taken. The goal is to ensure domestic political stability – even if it remains doubtful whether this is really about the interests of the Chinese population or actually more about securing the power of the Communist regime.

At first glance the changes to the party constitution might seem to be a rather abstract matter, but their symbolic significance should not be underestimated. This is where Hu and his supporters were able to put their ideological concepts into practice and define their break with the era of Deng Xiaoping and Jiang Zemin. The negotiating process leading up to the changes revealed the power relations and conflicts within the Party, where a free-market conservative wing faces off with a populist nationalist new left.[13] Hu treads a middle path between the two: his policies are designed to resonate with the business elite by upholding market reforms and opening up, while at the same time appealing to the left-wing forces through a strong emphasis on balance within society.[14] Overall, Hu has succeeded in consolidating his power within the political and military leadership, quickly getting potential successors into position in the politburo and appointing new generals.[15] His

6 *Constitution of the Communist Party of China*, "General Program" and Article 34 (1).

7 Falk Hartig, "Die Kommunistische Partei Chinas: Volkspartei für Wachstum und Harmonie?" *Internationale Politik und Gesellschaft Online*, electronic edition (Bonn: IPG-Redaktion, 2008), http://library.fes.de/pdf-files/ipg/ipg-2008-2/06_a_hartig_d.pdf.

8 *Yi ren wei ben* (take people as the basis for everything) is based on the idea of *min ben* (people as the root) and is believed to originate from the Confucian philosopher Mengzi. The approach thus draws consciously on the traditional Chinese philosophy of state. For detail on the concept of *min ben* see for example Baogang Guo, "Political Legitimacy and China's Transition", *Journal of Chinese Political Science* 8, no. 1–2 (2003): 5, 18ff.
For more on the concept of the "harmonious society" see Gudrun Wacker and Matthis Kaiser, *Sustainability Chinese Style: The Concept of the "Harmonious Society"*, SWP Research Paper 6/2008 (Berlin: Stiftung Wissenschaft und Politik, August 2008).

9 David Shambaugh, "The Road to Prosperity", *TIME Magazine*, 28 September 2009, www.brookings.edu/articles/2009/0918_china_shambaugh.aspx.

10 Joseph Fewsmith, *China since Tiananmen. From Deng Xiaoping to Hu Jintao*, 2nd ed. (Cambridge, 2008), 235ff.

11 In the run-up to the 2008 Olympic Games serious unrest was violently suppressed in Tibet. Similar bloody protests in July 2009 shook the autonomous region of Xinjiang, which is home to the Muslim Uighur minority. See Gudrun Wacker, *Unruhen in China. Ethnische Konflikte und ihr sozialer Kontext*, SWP-Aktuell 39/2009 (Berlin: Stiftung Wissenschaft und Politik, July 2009).

12 According to Pan Yue, Vice-Minister, State Environmental Protection Administration; "Environment Issues Addressed More Urgently", *China Daily*, 4 May 2006, www.chinadaily.com.cn/bizchina/2006-05/04/content_582631.htm.

13 Fewsmith, *China since Tiananmen* (see note 10), 278ff.

14 C. Fred Bergsten, Charles Freeman and Nicholas R. Lardy, *China's Rise: Challenges and Opportunities* (Washington, D.C.: Peterson Institute for International Economics and Center for Strategic and International Studies, 2008), 33f.

15 Fewsmith, *China since Tiananmen* (see note 10), 280, and "China Promotes 3 Generals", *Xinhua*, 20 July 2009, http://english.people.com.cn/90001/90776/90785/6705182.html. The latter is especially important, because Hu first had to make his mark against his predecessor Jiang Zemin, who enjoyed the confidence of the armed forces. After taking office as head of state Hu did not succeed Jiang as head of the Central

military modernisation assuages nationalist tendencies, which also helps to strengthen social cohesion.[16]

By packaging its defence policy in ideological wrapping the Chinese leadership is trying to deflect attention from its deliberate avoidance of a clearly formulated military strategy. Instead, a combination of general principles and theoretical statements form a strategic framework that allows plenty of room for pragmatic adaptations to changing circumstances on the international stage. This flexible approach also reflects the leadership's current domestic balancing act between cooperative foreign policy and nationalism.

New responsibilities for the military

The great economic internationalisation that China has undergone since the 1980s has begun to be felt in the military sector too. The army is being assigned new responsibilities, some of which lie outside Chinese territory. Alongside the traditional dangers, which from Beijing's perspective arise through the hegemonic ambitions of states like the United States and through regional and local rivalries, the current defence white paper names a multitude of non-traditional security threats:[17] terrorism and transnational organized crime (e.g. drug trafficking, smuggling and piracy), threats to energy and food security, environmental degradation and natural disasters (which hit China particularly hard in 2008 in the form of devastating earthquakes).

Beijing realises that these challenges of an interdependent globalised world demand a new role for the Chinese military. "new historic missions" *(xinde lishi shiming)* is the Chinese leadership's catch-all for describing the new situation and announcing new policies. Its growing acceptance can be seen especially clearly in the way the vocabulary of official statements and documents – like the defence white papers – has gradually changed since 2006.[18]

The necessity to modernise and professionalise the armed forces arises out of this altered perception of the security context.[19] The function of the army in the future economic and social development of the country is not only to deal with its traditional tasks (provide protection of the party's leading position in the state, provide a guarantee of internal order and development, and provide defence of national interests against external threat) but also to play "an important role in safeguarding world peace and promoting common development".[20] This strategy – summarised by the government as "three provides and one role"[21] – encompasses functions that emerge from the preceding doctrines of Mao Zedong and Deng Xiaoping but adds an international dimension.[22] According to the fundamental principle of an independent, peaceful and pragmatic foreign policy, China wishes to orientate itself strategically on "active defence"; this also involves safeguarding stability beyond the country's territorial borders.

So do the military developments follow the strategic political course laid out by the Party, or are terms like "scientific development" and "new historic missions" merely used to legitimise modernisation processes in the military sphere that have actually long been under way? Modernisation and internationalisation are in step with Hu's fundamental concern to look after China's economic and security interests at the global level and to develop a military that lives up to the country's economic status as a "great power in the making". The expansion of China's nuclear deterrent can be understood as an attempt to close the gap between China's huge economic strength and its comparatively inferior military power. These intensified efforts to enhance force projection are the work of the younger, more nationalist cadres whom Hu has been promoting to the highest ranks for some years through the professionalisation process that was initiated in the military.[23]

Military Commission for more than a year, which for a while led some observers to question the real distribution of power within the Chinese leadership.

16 Willy Lam, "Hu Boosts Military Modernization at PLA Anniversary", *China Brief* 9 (5 August 2009): 16.

17 Defence white paper 2008 (see note 2), section 1: "The Security Situation".

18 James Mulvenon, "Chairman Hu and the PLA's 'New Historic Missions'", *China Leadership Monitor* 27 (2009): 5.

19 Ibid., 1.

20 Mulvenon, "Chairman Hu and the PLA's 'New Historic Missions'" (see note 18): 2.

21 Bernard D. Cole, "China's Military and Security Activities Abroad", testimony before the U.S.-China Economic and Security Review Commission, 4 March 2009, www.uscc.gov/hearings/2009hearings/written_testimonies/09_03_04_wrts/09_03_04_cole_statement.php.

22 Bo Zhiyue, *China's Elite Politics. Political Transition and Power Balancing* (Singapore, Hackensack and London, 2007), 361.

23 Lam, "Hu Boosts Military Modernization" (see note 16), 3.

Indeed it is the conceptual framework set by Hu that has ultimately given the army the ability to conduct humanitarian aid operations and accommodate the technological standards set by the United States. For example, the process of "informationalisation" that found its way into China's defence white papers in 2006 means emulating the American-led drive towards network-based operations (NBO).[24] But most of the ongoing procurement projects, however, still date from 1990s, boosted lately by increasingly generous funding. With a few exceptions, it is thus difficult to show a direct causal connection between the party's theoretical concepts and specific procurement projects. In the following case studies we analyse how successful the modernisation efforts in the individual services have been over the past years and what significance they have for China's military potential.

24 Sascha Lange, *Netzwerk-basierte Operationsführung (NBO). Streitkräfte-Transformation im Informationszeitalter*, SWP-Studie 22/2004 (Berlin: Stiftung Wissenschaft und Politik, May 2004).

Modernising Military Capabilities

The army

The historical heart of the Chinese military is its army. But over the two decades since 1990 there has been a substantial reduction in troop numbers. Even since 2005 the number of soldiers has fallen by more than 21 percent, from 1.6 to 1.25 million.[25] However, that should not be taken to mean that its fighting power has been weakened. Instead, the armed forces have experienced a process of increasing professionalisation where training and exercises have been intensified. Superfluous headquarters, support positions and general-level posts have fallen away.[26] Structurally China is reducing its dependency on heavy forces from the time of the Cold War, such as artillery, tank divisions and mechanised infantry.

Instead, lighter forces such as airborne, marine and normal infantry divisions have been expanded to successively increase strategic mobility following the American example. And the trend to smaller military formations is accelerating. Reorganizing divisions into brigade-sized units is a further example of copying US concepts (brigade combat teams or BCTs). Underlining this point, the establishment of the airborne and marine forces has been accompanied by a corresponding growth in equipment such as amphibious tanks (e.g. ZBD 2000) (see "The navy" and "The air force", pp. 12ff. and pp. 13ff.). Here the Chinese are following their current defence white paper, which calls for reorientation "from regional defense to trans-regional mobility" and for "capabilities for air-ground integrated operations, long-distance maneuvers, rapid assaults and special operations" to be increased.[27] The 2006 white paper already listed "trans-regional mobility" as an objective for the land forces. It remains to be seen whether the planned measures will see troops redeployed from the hinterland to the ports for faster embarkation in the event of deployment. If there is no redeployment to the ports that will mean that the military configuration continues to be largely defensive. On the other hand, distributing highly mobile forces throughout the country would represent a focus on flexibility and broader options for using military force internally.

The increasing strategic mobility of Chinese troops (albeit starting from a very low level) increases the possibilities for using them against targets such as Taiwan. That said, the PLA does not appear to be adopting an offensive stance towards Taiwan, given that rapid response forces are absent from the geographically closest military region of Nanjing.[28] Furthermore, the most modern tank divisions are based in the northern military regions of Beijing and Shenyang, which suggests that they are orientated towards the Korean peninsula (see Figure 1, p. 15).[29] Nonetheless, military pressure on Taiwan has increased, with China increasing the number of conventional but modern short-range ballistic missiles (SRBMs) capable of hitting the island in the event of a conflict to more than one thousand.

Since the 1980s China has intensified its development of artillery rockets with calibres greater than 100 mm – against the trend in other armed forces (for example in NATO states) where such systems are being phased out. China's development efforts in the field of artillery guns and main battle tanks (MBTs) are by contrast very modest or declining. Thousands of artillery pieces have been taken out of service in recent years because their performance was no longer up to scratch. The same applies to tanks, where older models have been withdrawn faster than modern replacements have been introduced. This trend cor-

25 Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008*, fig. 10: "Taiwan Strait Military Balance, Ground Forces", www.defenselink.mil/pubs/pdfs/China_Military_Report_08.pdf; idem., *Annual Report to Congress: Military Power of the People's Republic of China 2005*, fig. 10: "Major Ground Force Units", www.defenselink.mil/news/Jul2005/d20050719china.pdf.

26 Timothy Hu, "Marching Forward", *Jane's Defense Weekly*, 25 April 2007, 24–30.

27 Defence white paper 2008 (see note 2), section 4: "The Army".

28 The three army units with that capacity are the 15th Airborne Division in Guangzhou and the 38th and 39th Armies in the military regions of Beijing and Shenyang; Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008* (see note 25), fig. 11: "Major Ground Force Units".

29 Hu, "Marching Forward" (see note 26).

responds to developments in the armed forces of other countries. Altogether the potential in heavy artillery has shifted to systems capable of delivering massive firepower over increasing distances.

All Chinese tanks are based on Russian designs, with significant improvements through Western-oriented modifications introduced only in recent years. But we cannot yet speak of fighting power comparable to Western models. Indeed, the bulk of Chinese tanks are still Type 59, a modified copy of the Russian T-54 whose prototype was produced back in 1945 (!). Despite various modernisations, this vehicle would be hopelessly outdated on the modern battlefield. Consequently, the broad retirement process for this model is likely to accelerate.

It is clear that the PLA's land forces are generally turning away from the heavily mechanised formations of the Cold War and replacing them with more mobile units that can deploy quickly to more distant theatres. This saves maintenance costs and expands the offensive potential. However, it not clear to what extent these capabilities can actually be used. Even if clear modernisation initiatives have been set in motion, China's land forces in particular still lag behind the technological capabilities of their European or American counterparts. The primary task of the People's Liberation Army still appears to be to secure domestic stability (which from the Chinese perspective includes the conflict with Taiwan).

The navy

The Chinese navy has been in a transitional phase since the second half of the 1990s. Whereas in the past the task of coastal defence shaped its structure and equipment, the process now initiated should greatly improve the navy's ability to operate on the high seas. And an enhanced capacity to deploy far from its home waters will increase the possibilities of use for political purposes.

Even though much of the Chinese navy consists of outdated and rather small vessels, we can already identify certain areas on which the upcoming modernisation will concentrate. Strategic submarines in particular currently enjoy priority; in security terms they are the badge of great power status. The two nuclear-powered submarine classes that went into service in 1974 and 1983 (Type 091, Han class SSN, and Type 092, Xia class SSBN) were little more than technology demonstrators and practice vessels. The introduction of two successor generations (Type 094, Jin class SSBN, and Type 093, Shang class SSN) will significantly enhance China's submarine forces, attaining basic strategic capacity for the first time. However, even these new nuclear-powered submarines remain weak compared to Western models. We are also currently witnessing a strong expansion in patrol boats and fast attack craft, of which many are presently under construction. Their uses tend to be fundamentally more defensive.[30]

No clear trend can yet be identified for destroyers, conventional submarines and supply and support vessels. In the current experimental phase, Chinese military shipbuilders are gathering experience with classes consisting merely of two vessels, with the different designs being tested and refined on the basis of experience in real operations. China is currently also using international peacekeeping missions to pragmatically acquire corresponding expertise (see "Cooperation on maritime security", pp. 19ff).

In the field of larger surface ships it is only with frigates that we can speak of proper series production. The Type 054A (Jiangkai-II class), a vessel that Beijing plainly regards as very promising and largely perfected, has been in (increasingly rapid) production since 2006. Work is also under way on another new frigate type, the F-22P for export to Pakistan. After the 054A, the Chinese will also wish to come to decisions on other major ship classes because well over half their naval vessels are very old and are of little use any more.

In the past there has been speculation about Chinese plans to build and operate aircraft carriers.[31] In order to ensure adequate operational availability and represent more than a status symbol, at least three of these extremely costly craft would be needed. Expensive carrier-capable aircraft would also be required, along with numerous support vessels such as frigates, destroyers and supply ships. Despite the enormous price tag of more than $10 billion per

30 Especially the Type 022 developed with Australian assistance stands out with its wave-piercing catamaran hull. The United States of America is the second nation which rely on this know-how from Australia. One of the two competing Littoral Combat Ship designs (LCS-2) use this expertise.
31 Edward Wong, "China Signals More Interest in Building Aircraft Carriers", *New York Times*, 23 December 2008, A8; "China Has Aircraft Carrier Hopes", *BBC News*, 17 November 2008; "China Hints at Aircraft Carrier Project", *International Herald Tribune*, 18 November 2008; cf. defence white paper for 2002, *China's National Defense in 2002*, section 6: "International Security Cooperation", www.china.org.cn/e-white/20021209.

carrier strike group, there are clear signs that China is indeed planning to produce aircraft carriers. It has for example begun developing carrier-launched warplanes and training pilots to fly them. According to Brazilian reports, Chinese pilots are to train on Brazilian aircraft carriers.[32] The fastest way for China to field an aircraft carrier is to refurbish the *Varyag*, purchased in 1998 from Ukraine. But this is only the first step. It will be only a matter of short time before Beijing confirms the construction of carriers of its own.[33]

The ongoing debate about the possibility of aircraft carrier construction highlights the problems that arise out of the intransparency of Chinese defence policy. Wishing to avoid its military developments unsettling its neighbours and the international community, Beijing regularly uses unofficial announcements to probe the responses provoked by plans to expand its capacities. The caution with which the leaders proceed suggests that they are well aware of the limitations on their options. China is subject to international dependencies and seeks to cultivate the image of a non-aggressive "responsible great power".

But this "great power" is accumulating weapons systems with enormous destructive power. There is evidence to suggest that the DF-21C medium-range ballistic missiles have been converted into anti-ship ballistic missiles (ASBMs). At more than 2,000 kilometres, the range of this ASBM would extend almost to the second island chain in the Pacific.[34] Most of this area is covered by newly installed Chinese radar systems. A possible future installation of a powerful set of earth observation satellites (IMINT) in the reconnaissance setup could expose enemy surface vessels to a great risk of harm in any potential conflict in this area.

This increased risk could in turn delay or reduce the scope of any deployment of enemy naval forces inside the second island chain or even repel their power projection. Chinese forces would have it easier to unfold their power in this region.

32 L. C. Russel Hsiao, "In a Fortnight: PLAN Officers to Train on Brazilian Aircraft Carrier", *China Brief* 9, no. 12 (12 June 2009): 1.

33 Nan Jan Li and Chris Weuve, "China's Aircraft Carrier Ambitions: An Update", *Naval War College Review* 63, no. 1 (2010).

34 For the Chinese the first island chain is the line from Kyūshū through Okinawa and Taiwan to the Philippines. The second island chain runs from Japan via the Marianas to the Marshall Islands.

Overall the Chinese navy still has major difficulties to overcome. But over recent years the country's shipbuilding capacities have been decisively expanded and modernised, putting China in a position to produce numerous warships every year and laying the groundwork for considerably speeding up its output of fighting ships. All that is needed now is a decision about which models the Chinese navy wishes to rely on in future. Perhaps a bigger destroyer hull will be developed and tested in this decade with an eye to supporting future aircraft carriers.

Structurally the South Sea Fleet profits most from these developments, with a large new naval base constructed on the island of Hainan, far from the facilities of the United States and its most important allies, to complement the headquarters in Zhanjiang. Underlining its importance, the South Sea Fleet is commanded by a vice-admiral (while the North and East Sea Fleets are led by rear admirals). Today the largest and most modern Chinese-made vessels are assigned to the South Sea Fleet, which – continuing the existing infrastructure and fleet trends – will probably also receive additional nuclear-powered submarines and the first aircraft carrier. In future an ocean-going fleet operating out of Hainan could secure China's priority shipping routes. And from Hainan Beijing could significantly increase its pressure on the states bordering the South China Sea in the conflict over the Paracel and Spratly Islands.

With its strategic fleet development China is aiming both to achieve military great power status and to develop force projection options for gaining access to resource-rich regions of the global south. So in the Chinese navy – as with its land forces – we can identify an expansion of offensive potential. And initial successes can already be identified more clearly than with the other services. China possesses a solid basis in this field, after having created considerable military shipbuilding capacities of its own – which are already today close to world class. Its expansion and modernisation of its ocean-going navy suggests that the Chinese government has widened the definition of its national sphere of influence. Internationalisation of trade relations and security interests means that its reach is increasingly global.

Air force

The Chinese air force is the only branch for which the 2008 defence white paper identifies offensive

capabilities. That is surprising, given that in their rhetoric China's leaders otherwise emphasise the country's defensive military doctrine and defence structure.

The bulk of the air force is concentrated in the five coastal military regions (see Figure 1, p. 15). In terms of quality there is a clear focus on Taiwan, with a disproportionate number of the most modern warplanes stationed in the military regions of Nanjing and Guangzhou that are closest to the island.

That said, there are more air force divisions based in the environs of the capital Beijing to protect the seat of the government and the Communist Party than in the vicinity of Taiwan, indicating a fundamentally defensive military stance. Another pointer to such an orientation is that most of China's anti-aircraft units are stationed close to the capital or the megacity Shanghai. Development of these technologically world class air defences began in the 1990s and is currently accelerating.[35]

Like the navy, the Chinese air force is in a transitional phase, but the air force has a greater structural and equipment deficit to catch up. Technologically, the Chinese aerospace industry still lags far further behind the global leaders than is the case with shipbuilding. Almost all of China's warplanes originate in foreign countries and significant sub-systems are manufactured abroad or on licence from foreign designs. Even the latest models are still primarily produced in Russia, including engines, sensors and weapons.[36]

Even the first modern "local" warplane design, the new J-10 and the improved version J-10B, required massive foreign support from Russian engineers and Israeli designers. From the Chinese perspective it is a great step forward that the J-10B for the first time demonstrates design features that can rival the latest Western models and can in future be manufactured largely independently in China. The J10-B is set to become a standard Chinese fighter.

Most of the Chinese warplanes currently in service have a relatively short range, making them primarily suited for defensive purposes given an appropriate geographical distribution. But fundamentally, the new warplanes like the J-10B can also be deployed on longer-range missions, especially because they can be refuelled in the air. The Su-30 and the J-11 also have a longer operating ranges. These models would be much better suited than other Chinese planes for deployment against Taiwan, the South China Sea, the Korean peninsula and parts of Japan. Although large numbers have not yet been brought into service, no other state currently has as many warplane projects in the stages of advanced development and production as China: the Su-30MKK, the J-11/ J-11B, the J-10/J-10B and the JF-17, as well as the planned new J-XX stealth fighter, which seems to be oriented more on the YF-23 than on its potential adversary, the F-22.

However, the power of the Chinese air force is restricted by its lack of crucial force multipliers such as air-to-air refuelling and AWACS (especially important in complex and dynamic air warfare). And the very sizeable fleet – now more than 1,700 aircraft – suffers from having an enormous diversity of different models, which complicates maintenance, stock-keeping of spare parts and shared use of sensors and weaponry. So the proportion of aircraft that are actually operational could be considerably less than in Western-equipped air forces. China's air force may be numerically impressive, but its effectiveness will remain relative for the foreseeable.

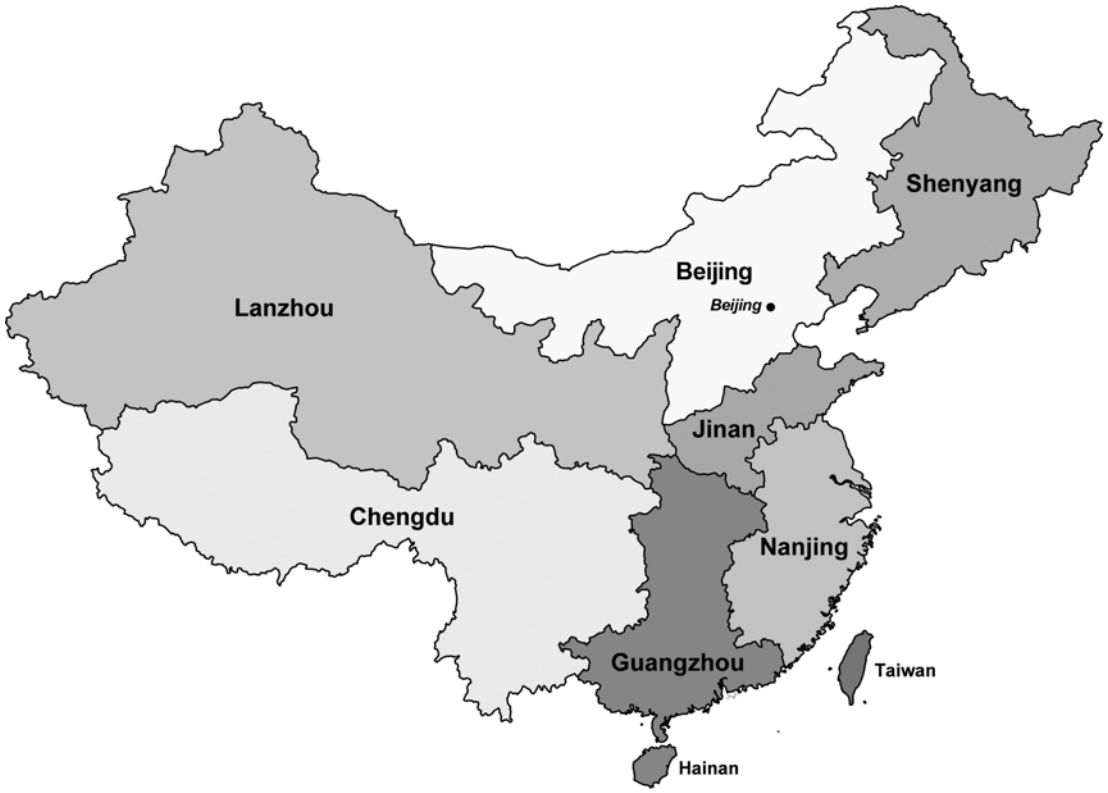
Only in air transport capability might there be a considerable boost in the coming years, if the ordered machines are actually delivered. China has ordered thirty-four IL-76MDs from Russia to add to the fourteen it already owns. One wild card is the Chinese Y-20 project, which represents a potential fall-back option if no credible airlift capability can be obtained from abroad. Air-to-air refuelling and AWACS capabilities will grow less quickly because a numerical rise merely creates the preconditions for expanding capabilities; with force multipliers in particular the benefits can only be reaped after the required integrated fighting techniques have been developed and mastered. The operational synergies of reconnaissance, command and control, refuelling and strike units can only come to full effect in a process of complex, finely orchestrated interaction. And this can only be established through a lot of first-rate training and intensive manoeuvres.

If it were not bad enough that the outdated J-7, J-8 and J-8II models demand increasing servicing, repairs and refurbishment, the first aircraft of the newer generation are now also reaching a service life where the need for replacement increases. As a consequence it is to be expected that the Chinese air force will follow the global trend and significantly reduce its number

35 The HQ-19 (S-400) surface-to-air missile system is currently being introduced.

36 The Su-27 (including the licensed copy J-11B) and the Su-30.

Figure 1
China's military regions



of aircraft, at least partly substituting quality for quantity.[37] Reducing the sheer size of China's air force makes sense when military planners in Beijing are aware that there are still massive deficits in reconnaissance and surveillance (C^4ISR). Put another way: as long as targets cannot be detected, located, classified and identified, there is little sense keeping large numbers of attack jets on hand.

The fighting power and offensive potential of the Chinese air force have increased considerably since the turn of the century, albeit starting from a comparably low level. Although many old systems are still in use, manufacturing capacity for modern warplanes has been growing rapidly since 2005. It remains to be seen how quickly and comprehensively air force will be able to put the modern systems into service. In view of the numerous warplane programmes currently running, it is certainly clear that Chinese security and defence policy continues to be designed and structured for modern symmetrical conflicts, which is also where it concentrates investment of resources.

37 This maxim is also followed by the development programme for the J-XX stealth fighter, seeking an equivalent to the standard-setting American F-22 Raptor. Work has begun but relevant operational readiness is not to be expected before 2020. On the other hand the speed with which the J-10 was developed into the J-10B is surprising. Even before the basic J-10 had joined the Chinese air force in significant numbers, the J-10B was improved to include features (e.g. divertless supersonic intake) that are in some cases more modern than the latest European versions (Eurofighter and Rafale). This uneconomical way of pursuing technology advances is orientated on maximising rather than optimising modernisation and performance gains. It can be characterized as quite aggressive.

Space forces

Alongside the instrument of arms exports, China uses space to strengthen its ties with other states. As well as Nigeria and Venezuela, Brazil in particular receives Chinese space technology through the China-Brazil Earth Resources Satellite programme (CBERS). China has built up imposing abilities in this strategically increasingly important sector and gained extensive experience. The extensive dual use potential of both

satellites and launch rockets provides a solid basis for rapid expansion of military uses. Although China still lags behind the United States, Russia and Europe as far as the number of military satellites is concerned, it is set to overtake at least the Europeans in the coming years. In the field of launch vehicles China advanced to worldwide third place quite some time ago: since 2003 China has conducted fifty-three launches, Europe only thirty-six.[38] Through its ambitious and costly space programme China underlines its status as a space-faring nation. China is only the third state ever to put an astronaut into orbit independently, and has its first space station – Tiangong 1 or Heavenly Palace – planned to launch in 2010. Even if this is initially just a platform to test the docking technology, China's enormous advances in this sector are undeniable.

Since 2006 the Yaogan IMINT satellites have been conducting radar reconnaissance as well as optical imaging. Two separate systems are available for communication, while the Beidou system provides excellent navigation. In developing these systems the Chinese are seeking to keep up with advances in network-based operations. They are also working to improved electronic data communication and positioning for their weapons systems to enhance firepower and eliminate identified deficits.

Although China insists it is using space only for peaceful purposes and wishes to prevent an arms race in space, its deeds speak otherwise. As well as developing a militarily attractive mini-satellite programme, it also successfully tested a Kaitouzhe-1 ASAT missile in 2007 by intercepting an obsolete weather satellite. Success was also claimed for another ASAT test in January 2010.[39] After the United States and the Soviet Union, China is the third nation to have repeatedly tested space weapons systems such as ASAT. Beijing obviously try to exploit opportunities, even if this endangers the systems of other nations. By demonstratively expanding its capabilities largely outside the international framework (such as the ISS space station), China's space activities contradict its own claim to act as a "responsible great power".

Along with other measures, China's space activities are designed to promote the "informationalisation" *(xinxihua)* of the armed forces.[40] This factor has come to occupy an ever-growing place in Chinese military doctrine as the process of global networking of local and regional computer networks progresses. In China's current defence white paper the term "informationalisation" appears a grand total of thirty-six times. But of course the Chinese armed forces are not alone in pursuing the benefits of data processing and communication; computer network operations (CNO) are on the march in many countries (especially the United States).

China is hampered in this field by its dependency on foreign hard- and software. But Beijing has already launched initiatives to improve the pertinent national capacities, and these activities are likely to be intensified.

Nuclear forces

The 2008 defence white paper supplies a little more information than usual about China's nuclear capacities. Whereas the existence of nuclear-powered submarines carrying strategic missiles had already been officially announced in 2002,[41] we now learn that China's nuclear deterrent capacity has been continually improved.[42] It is also reported that the air force now has "certain capabilities to execute long-range precision strikes and strategic projection operations".[43] Nonetheless, China remains very reticent when it comes to providing information about its nuclear capabilities. We are still waiting for a detailed account of the structural transformation of recent years. What we can observe and reconstruct from other sources, however, is that China has made significant progress in developing a classical nuclear triad.[44]

38 Europe's space activities are centrally coordinated by the European Space Agency (ESA).
39 Andrew Jacobs and Jonathan Ansfeld, "China's Missile Test Is Said to Signal Displeasure With U.S.", *New York Times*, 13 Januar 2010, 14.

40 The term *xinxihua* covers accelerated data collection, processing and distribution. The US armed forces speak of information superiority in this context. The point is to collect and process data in the shortest possible time, in order to solve a problem more quickly than the enemy. The US armed forces call this concept network centric warfare (NCW).
41 Defence white paper 2002 (see note 31), section 3: "The Armed Forces", subsection: "The People's Liberation Army".
42 Defence white paper 2008 (see note 2), section 5: "The Navy".
43 Ibid., section 6: "The Air Force".
44 "Triad" is the designation for a nuclear arsenal composed of ground-, air- and submarine-launched weapons. The ground-launched component generally comprises mobile

The size of the Chinese nuclear arsenal is estimated internationally to be 110 to 200 warheads.[45] This makes it the smallest operational arsenal of any nuclear state under the nuclear non-proliferation regime. The US Office of the Defense Secretary, which produces an annual report on China's military capabilities for the US Congress, estimated China's nuclear capabilities as follows in the 2008 edition:[46]

- Approximately a dozen modern intercontinental ballistic missiles;[47]
- Approximately twenty older liquid-fuelled intercontinental ballistic missiles, stationed in bunkers and capable of reaching any target in the continental United States;[48]
- Approximately thirty-five to forty-five functioning intermediate-range ballistic missiles;[49]
- More than fifty mobile solid-fuelled medium-range ballistic missiles for regional deterrence;[50]
- Twelve submarine-launched ballistic missiles.[51]

China is expanding its second-strike capability by developing a new submarine-launched ballistic missile (SLBM), the Ju Lang-2, and by constructing nuclear-powered submarines capable of launching it (see "The navy", p. 12). So by 2010 the country will have a new submarine fleet with up to thirty-six Ju Lang-2 SLBMs with a range of more than 7,200 kilometres. The new missile technology potentially even brings the American mainland within range from the East China Sea. In the long term these new nuclear ballistic missile submarines will allow China to have least one such launch platforms on patrol at all times,[52] and the country would at last possess the nuclear triad.

Two trends could strengthen China's nuclear deterrent in the medium term. Firstly, Beijing is seeking to develop nuclear-capable ground-launched missiles with enhanced survivability. Secondly, it is increasingly investing in military counter-measures to the American missile shield.[53] Although these activities pass unmentioned in official Chinese statements, the United States is explicitly accused of having a "negative effect on the global strategic balance and strategic stability" through its missile defence programme, underlining how attentively Beijing is following these developments.[54] The decision to deploy additional mobile ground-launched Dong Feng-31A intercontinental missiles is exemplary for both trends. Like the less mobile DF 5A, these missiles can hit targets in the entire continental United States, while their mobile launch vehicles can be deployed flexibly across a broad area thus offering greater survivability in the event of a foreign first strike.

However, the development of mobile systems is likely to bring forth problems at the level of command and control, especially when it concerns the question

intercontinental and medium-range missiles, the air-launched component strategic bombers with intercontinental range. The key third element is a quasi-permanent presence of nuclear-powered submarines carrying ballistic missiles, deployed far out to sea so as to be extremely difficult to locate. These submarine systems are supposed to increase the credibility of the second strike threat and guarantee effective deterrence by ensuring that the capacity to strike back is retained even in the event of the ground- and air-launched components being destroyed. Because of the great costs involved only the United States and the Soviet Union/Russia have been able to maintain a triad throughout the nuclear age.

45 Natural Resources Defense Council, "Chinese Nuclear Forces, 2006", *Bulletin of the Atomic Scientists*, May–June 2006, 60.

46 Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008* (see note 25).

47 CSS-9 Mod 2 (Dong Feng-31A) with a range of 11,200 km. The DF-31A, a development of the DF-31 intercontinental missile, is MIRV-capable (equipped with a multiple warhead capable of attacking numerous targets from a single missile and fitted with decoys and other penetration aids to make it more difficult to intercept the actual warheads). Intercontinental missiles are those with a range greater than 5,500 km. According to Article 2 (5) of the INF Treaty intermediate-range missiles are those with a range of 1,000 to 5,500 km. The category of medium-range missiles is commonly further subdivided into medium-range ballistic missiles (MRBMs) and intermediate-range ballistic missiles (IRBMs).

48 CSS-4 (Dong Feng-5A), range 13,000 km.

49 CSS-2 (Dong Feng-3). IRBMs are intermediate-range missiles with a range of 2,700 to 5,500 km. The range of the DF-3 is 3,000 km, the range of the CSS-3 (Dong Feng-4) 5,400 km.

50 CSS-5 (Dong Feng-21), range 1,750 km. The range of MRBM spans 1,000 to 2,700 km.

51 The twelve CSSN-3 (Ju Lang-1) SLBMs (submarine-launched ballistic missiles) are deployed on Type 092 (Xia class) submarines, to date China's only nuclear ballistic missile submarines. The Ju Lang-1 is a solid-fuel submarine-launched version of the land-based CSS-5 (Dong Feng-21) mobile medium-range missile and has a range of at least 1,770 km.

52 U.S. Navy, Office of Naval Intelligence, *Seapower Questions on the Chinese Submarine Force*, 20 December 2006, www.fas.org/nuke/guide/china/ONI2006.pdf.

53 For example in maneuvering re-entry vehicles (MARVs), multiple independently targetable re-entry vehicles (MIRVs), decoys and radar evasion systems, thermal signature reduction and anti-satellite weapons; Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008* (see note 25), 25.

54 Ibid.

of who is to be responsible for launching them. The PLA currently has only limited capability to communicate with submarines on patrol and the Chinese navy lacks almost any experience in handling a fleet conducting strategic operations.[55] Therefore it will still be several more years before the new strategic weapons systems are fully integrated in the services.

Following China's nuclear modernisation efforts, it appears for the first time that its arsenal could be credibly survivable in the event of war and thus second-strike-capable, a threat potential that has thus far been underdeveloped. But China's nuclear weaponry will remain numerically and technically far behind the abilities of the United States. Chinese submarines could not yet win or even survive an open conflict with American forces for example. China is currently the only nuclear weapons state under the non-proliferation treaty that is actively expanding its arsenal. But with Beijing still adhering to the "no first use" doctrine these efforts cannot really be classified as "offensive". Much more, the country is probably seeking to send a message to Washington concerning its great power ambitions.

Outlook

China's military is currently passing through a transitional phase. In certain sectors we can see that the Communist leadership is rapidly approaching its goal of creating the basis for China's complete military modernisation by 2010. The modernisation process itself is to be completed by 2050, with the most important steps of "informationalisation" coming within the next ten years. But even by 2020 China will still be no match for the forces of the United States.

The Chinese air force still suffers considerable quantitative and qualitative performance deficits because of its lack of force multipliers. Similar weaknesses also affect the army and navy to a lesser extent. The ensuing deficiencies are so grave that China would clearly come off worse in any armed conflict with the biggest military power in Asia, the United States. But the country's leadership has recognised the equipment problems and has initiated procurement programmes to remedy the situation. Under the principles of "scientific development" modern electronics have a decisive role to play.

The qualitative deficits are largely caused by the Western arms embargo, which remains in place.[56] For example, China's attempt to procure Israeli radar technology through the Phalcon programme was stymied by massive U.S. intervention. But numerous other defence projects – for example the J-10 warplane, the General Electric/AVIC joint venture or the Z-15 transport helicopter – reveal a broad inflow of international military technology and system components (or military use goods). Particular platforms such as aircraft and ships profit most from this, whereas the embargo has thus far denied China the ability to import force multipliers or produce them itself. If Chinese access to these key military capabilities is to continue to be blocked the arms embargo will retain a key role.

The Chinese doing more than pushing forward the operational modernisation of their armed forces, seeking also to improve training and preparation to make the military more modern and competitive. In this connection the leadership is increasingly looking to bi- and multilateral cooperation to gather operational experience and test new equipment. At the same time it is concerned to integrate the activities of the People's Liberation Army into the country's political agenda; that means underlining the military's defensive stance and its contribution to international stability and security. Since the beginning of the twenty-first century Chinese servicemen and -women have increasingly been deployed far from the shores of their homeland.

55 Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008* (see note 25), 25.

56 The European Community imposed an arms embargo on China in 1989 after the violent suppression of the democracy movement. But it is couched in very general terms and is circumvented to a greater or lesser extent by many EU member states, which may perhaps refuse to supply complete weapons systems such as tanks or aircraft but nonetheless export important components such as diesel engines for tanks and submarines. Civil/military dual-use goods are not covered by the embargo. Europe's biggest exporters are France, the United Kingdom, Italy and Germany. The United States is more restrictive, but does not operate a strict embargo policy either. "China Invited to Arms Fair Despite Embargo", *Financial Times*, 6 September 2009, www.ft.com/cms/s/0/461bf150-9b18-11de-a3a1-00144feabdc0,dwp_uuid=9c33700c-4c86-11da-89df-0000779e2340.html; "EU hebt Waffenembargo gegen China vorerst nicht auf", *FAZ.NET*, 15 April 2005, www.faz.net/s/Rub99C3EECA60D84C08AD6B3E60C4EA807F/Doc~EB0E4431824F547AABFBA0B49DE6192A1~ATpl~Ecommon~Scontent.html.

Internationalisation

Cooperation in maritime security

The latest example of the international activities of the Chinese armed forces is their naval mission in the Gulf of Aden. The three warships deployed represent China's first major naval operation in six hundred years, and the country's first active intervention outside the Pacific. The mission of the guided missile frigates FFG-529 *Zhoushan* and FFG-530 *Xuzhou* and the supply vessel AORH-887 *Weishanhu* is to patrol the trade route in the Gulf of Aden on the basis of Security Council Resolutions 1816, 1838, 1846 and 1851, passed under Chapter VII of the UN Charter (Action with Respect to Threats to the Peace, Breaches of the Peace and Acts of Aggression).[57]

The operation is clearly linked to the foreign policy premises that Beijing has reiterated recently. Given that China wishes to work for a peaceful international environment that benefits its interests, the economic interdependencies and the importance of the country's exports require it to take action outside its own territorial waters. Descriptions of the operation also take up the concept of the "new historic missions". As the Chinese *People's Daily*, the mouthpiece of the Communist Party, put it, the mission demonstrated "not only how our navy sails off onto the high seas, out into the blue, with its eyes on a worthy objective, but also how it takes on a new historic mission and makes a leap in the process of establishing diversified military capabilities".[58]

In broader terms, China is also seeking to expand its military abilities in the framework of bilateral and multilateral security cooperation in order to be in a better position to tackle regional threats.[59] Since the turn of the century we have increasingly witnessed Beijing exploiting possibilities for regional engagement and security cooperation in the field of non-traditional security threats through channels such as the ASEAN Regional Forum (ARF). In November 2002, after long negotiations, the "Joint Declaration of ASEAN and China on Cooperation in the Field of Non-Traditional Security Issues" established a framework for cooperation.[60] China is also exhibiting increased interest in military exchanges and joint exercises, especially in the field of maritime security.[61] Here Beijing wishes to strengthen military cooperation regionally and globally, while at the same time profiting from the experience of other navies.

In 2002 Chinese officers began participating in naval exercises in the western Pacific organised by Singapore, Japan, Thailand and the United States, initially as observers.[62] The exercises encompassed maritime mine clearance, search and rescue operations, peace enforcement and the evacuation of civilians.[63] Then in October 2003 the Chinese navy began running its own military search and rescue exercises, to which Pakistan and later also India were invited. Beijing is also attempting to strengthen bilateral military ties with Vietnam, Malaysia, Thailand, the Philippines and Indonesia.[64]

One notable development was the first joint search and rescue exercises with the US navy, conducted in September and November 2006 in San Diego Bay and the South China Sea.[65] This step represented the out-

57 "China Focus: Chinese Fleet to Escort Ships Off Somalia", *China Military Online*, 27 December 2008, http://english.chinamil.com.cn/site2/special-reports/2008-12/27/content_1599921.htm; UN documents S/RES/1816 (2008), S/RES/1838 (2008), S/RES/1846 (2008), S/RES/1851 (2008).

58 "Cong Yadingwan huhang kan lüxing wo jun xin shiming" [Escorts in the Gulf of Aden demonstrate fulfillment of our army's new mission], *People's Daily Online* (Chinese version), 4 January 2009, http://military.people.com.cn/GB/42967/8617653.html.

59 Defence white paper 2008 (see note 2), section 1: "The Security Situation".

60 China's 2004 defence white paper, *China's National Defense in 2004*, section 9: "International Security Cooperation", www.china.org.cn/e-white/20041227.

61 This also applies to counter-terrorism; defence white paper 2002 (see note 31), section 6: "International Security Cooperation".

62 China's 2000 defence white paper, *China's National Defense in 2000*, section 5: "International Security Cooperation", www.china.org.cn/e-white/2000.

63 Ibid.

64 China's 2006 defence white paper, *China's National Defense 2006*, appendix 4: "Joint Exercises with Foreign Armed Forces (2005–2006)", www.china.org.cn/ english/features/book/194421.htm.

65 Defence white paper 2004 (see note 60), appendix 5: "Joint Exercises with Foreign Armed Forces (2003–2004)".

come of eight years of bilateral consultations on maritime security and marked a breakthrough in Sino-American relations.[66] At the end of 2008 the Chinese suspended bilateral military cooperation over a dispute concerning an American arms sale to Taiwan worth several billions of US dollars, but talks resumed at the end of February 2009 after the new American Secretary of State Hillary Clinton's visit to China.[67]

The current defence white paper notes that in 2007 and 2008 the Chinese navy organised bilateral exercises with the navies of fourteen other states,[68] as well as various multilateral exercises including the Western Pacific Naval Symposium (WPNS), held in May 2007 with eight other navies.[69] Although China was one of the founding members of this forum twenty years ago, this was the first time it participated actively in an exercise.[70] Here we see a clear trend towards greater opening of the Chinese naval forces and closer cooperation on matters of maritime security.

However, Beijing is refusing to support measures to prevent technologies or materials that could serve to manufacture atomic, biological or chemical weapons (ABC) from being traded and smuggled by sea, and abstaining from the Proliferation Security Initiative (PSI) launched in May 2003 by the United States. In view of this refusal Washington accuses the Chinese leadership of failing to make an adequate contribution to non-proliferation of ABC capabilities. This issue especially affects China's regional context. The United States would like to put North Korea – whose regime trades in sensitive goods by sea and thus exacerbates ABC proliferation (in an attempt to ensure its own survival) – on a short economic leash. But as long as George W. Bush was in office, China actually warned its neighbours against the PSI, which it perceived as an instrument of aggression and a component of the then US President's strategy of preemption.[71]

The Global Maritime Partnership (GMP), to which the US Navy repeatedly tried to recruit China after it joined the operations in the Gulf of Aden, met with similar responses.[72] The United States portrays the initiative as a comprehensive framework for "effective" maritime security cooperation, into which the PSI fits seamlessly. The Chinese on the other hand see this as Washington's attempt to establish a regime designed to maintain American global dominance in maritime matters.[73] Occasionally the initiative is even characterised as a part of American efforts to contain China and Russia.[74]

International peacekeeping

For a long time China rigorously refused to participate in international operations of any kind, adopting a stance emphasising national sovereignty and the principle of non-intervention in the internal affairs of other states. But for some years now we have been observing a significant policy shift in the field of international peacekeeping and security cooperation within the United Nations framework. China now backs up initial verbal support for international operations under UN leadership and mandate with personnel contingents.

Since 1990 China has sent more than twelve thousand soldiers, military observers and police to serve in UN missions, largely in the period since 2003.[75] Currently 2,147 Chinese soldiers and police are deployed on UN missions, making China the largest troop provider of the five permanent members of the Security Council (ahead of France which supplies 2,021 soldiers and police) and ranking it fourteenth on the list of troop-contributing nations.[76] Financial contributions

66 Mingjiang Li, "China's Gulf of Aden Expedition and Maritime Cooperation in East Asia", *China Brief* 9, no. 1 (12 January 2009): 5–8 (7).
67 US Secretary of State Hillary Rodham Clinton, "Toward a Deeper and Broader Relationship with China: Remarks with Chinese Foreign Minister Yang Jiechi", 21 February 2009, www.state.gov/secretary/rm/2009a/02/119432.htm.
68 Including Russia, the United Kingdom, India and South Africa.
69 Defence white paper 2008 (see note 2), section 13: "International Security Cooperation".
70 Eric McVadon, "China and the United States on the High Seas", *China Security* 3, no. 4 (autumn 2007): 3–28.
71 Gu Guoliang, "Meiguo 'fang kuosan anquan changyi' pingxi" [Eine Analyse der amerikanischen "Proliferation Security Initiative"], *Meiguo Yanjiu* [American studies quarterly], 2004, no. 3:30–44.
72 "Regional Maritime Security Initiative: The Idea, The Facts", www.pacom.mil/rmsi.
73 Mingjiang, "China's Gulf of Aden Expedition" (see note 66): 7.
74 Media interview with Li Jie, PLA naval analyst (in Chinese), www.cnr.cn/military/djt/200712/t20071228_504666766.html.
75 Defence white paper 2008 (see note 2), appendix 3: "China's Participation in UN Peacekeeping Operations".
76 As of 30 September 2009. By comparison, Germany occupies thirty-fourth place with 312 soldiers and police, the United States eighty-fourth place with 70 soldiers and police, United Nations Department of Peacekeeping Opera-

to UN peacekeeping operations have also increased considerably, with China now providing 3 percent of available funds, which puts it among the ten largest contributors.[77]

Since the turn of the century China has grown from a negligible factor in the UN's peacekeeping apparatus to a decisive one. Between 1989 and 2000 China provided just 532 soldiers, military observers and police, of which 400 were engineers deployed to Cambodia in 1992–93 as part of the UNTAC mission.[78] When it began participating in UN operations China's actions were still strongly guided by its emphasis on national sovereignty, non-intervention and the issue of international recognition of Taiwan. In the meantime the leadership in Beijing has become more flexible and pragmatic, even if its rhetoric still circles these touchstones of Chinese diplomacy.

Increasing its involvement in international peacekeeping allows China to appear as a "responsible" power and take on more weighty functions within the global security architecture. During her inaugural visit to Asia in February 2009 US Secretary of State Hilary Clinton underlined this growing Chinese share in international tasks, explicitly praising China's role in international peacekeeping efforts.[79]

The opening of a Peacekeeping Training Centre in Huairou near Beijing in June 2009 is a sign of the continuing professionalisation of the Chinese peacekeeping apparatus.[80] Until then there was only a training centre in Langfang (Hebei province) preparing civilian police for UN peacekeeping operations.[81] The addition of a highly modern training facility for military personnel shows that the Chinese leadership is also preparing for military contributions to UN operations.

In the long term, cooperation in the field of peacekeeping could help to improve the transparency of the People's Liberation Army, increase China's share in the work of global security and boost the effectiveness of UN operations themselves.[82] After serious setbacks suffered by UN peacekeeping missions in the 1990s,[83] the Western industrialised nations have increasingly sought alternative formats to conduct international missions (e.g. EU, NATO) and withdrawn from operational UN-led peacekeeping. China has the potential to fill the gap.[84]

Developments show that China is willing to take on new tasks in this sector to a certain extent. First of all in the hope of gaining prestige. Secondly, "military operations other than war" embedded in the overarching context of the PLA's "new historic missions" further the process of professionalisation of the military, enabling it to apply its new functions and capacities in practice.[85] Thirdly, Beijing pragmatically strives to avoid and resolve violent conflicts in order to safeguard the peaceful environment that is the necessary precondition for sustained economic growth, internal political stability and thus for the Communist Party to retain its hold on power.

tions, www.un.org/Depts/dpko/dpko/contributors/2009/sept09_2.pdf.

77 China shares seventh place with Canada and Spain. The lion's share of the peacekeeping budget is supplied by the United States, Japan and Germany, which together fund 52 percent of the budget. All figures from UN DPKO, www.un.org/Depts/dpko/dpko/index.asp.

78 Bates Gill and James Reilly, "Sovereignty, Intervention and Peacekeeping: The View from Beijing", *Survival* 42, no. 3 (autumn 2000): 45.

79 Clinton, "Toward a Deeper and Broader Relationship with China" (see note 67).

80 "China's Military Opens First Peacekeeping Training Center Near Beijing", *Xinhua*, 26 June 2009, http://english.people.com.cn/90001/90776/90785/6686691.html.

81 Bates Gill and Chin-Hao Huang, "China Spreads Its Peacekeepers", *Asia Times Online*, 4 February 2009, www.atimes.com/atimes/China/KB04Ad01.html.

82 Chin-Hao Huang, "China's Military and Security Activities Abroad", testimony before the U.S.-China Economic and Security Review Commission, 4 March 2009, www.uscc.gov/hearings/2009hearings/written_ testimonies/09_03_04_wrts/09_03_04_huang_statement.pdf.

83 Above all the aborted missions in Somalia (1993) and Rwanda (1994), but also the failure in Bosnia (with the Srebrenica massacre of 1995).

84 "China Filling Void Left by West in U.N. Peacekeeping", *Washington Post*, 24 November 2006, and Bonny Ling, "China's Peacekeeping Diplomacy", *China Rights Forum*, 2007, 1.

85 Bates Gill and Chin-Hao Huang, "China's Expanding Peacekeeping Role: Its Significance and Policy Implications", *SIPRI Policy Brief*, February 2009, 4f, http://books.sipri.org/files/misc/SIPRIPB0902.pdf.

Conclusion

China is doing its utmost to modernise the largely outdated structure and equipment of its armed forces. The speedy introduction of modernized organisational structures and system technologies is designed to advance this process. By 2010 – the deadline set by Beijing – the foundations for the modernisation process will probably be in place. But even in the broader timeframe through 2020 the Chinese military will be no match for the US armed forces.

The centre of gravity of the Chinese armed forces remains the army. Its role of underpinning the power of the Communist Party means it is still primarily domestically orientated. Changes designed to increase its regional mobility have only begun recently. In the other services, and especially in the field of space activities, the pace of change is faster – driven by the enormous expansion of the country's industries. In those terms, China is seeking a gradual rise to great power status starting from a rather ageing defensive base. Generally speaking the development of China's armed forces follows the political logic of the Communist Party: its foremost concern is to safeguard the power of the Party; at the same time the country's influence is to be expanded – regionally at first – to match its growing economic potential.

From abroad, the growing defence budget and expanding capabilities of the different branches of the Chinese armed forces are increasingly perceived as a potential threat.[86] Substantial expansion of its military might – especially in space, in the air force and in the navy – also raises questions about China's intentions in various territorial disputes. Taiwan is the obvious case, but there are also conflicts over the Paracel and Spratly Islands in the South China Sea and border disputes with Japan and Russia. We will have to wait and see how modernisation and expansion of the Chinese armed forces affect the regional and Pacific perspective. Regionally, Beijing's growing activities – including those in the field of maritime security – are increasingly answered with counter-initiatives,[87] without this touching on the status of the United States as regional security guarantor.[88] Even China welcomes the security presence of the United States in the region, because Washington's cooperative attitude and military intervention have to date played a central role in ensuring the regional security and stability from which China has profited so greatly. It remain to be seen whether Beijing's fundamental attitude will change when the country has attained a certain degree of economic and military power.

China's increasing participation in maritime security cooperation is part of a attempt spanning all branches of the military to gather operational experience through bilateral and multilateral exchange programmes and exercises. The enhancement of maritime capabilities is another step that enables China to live up to its claim to be a "responsible great power", playing a growing role in international peacekeeping missions and at the same time pursuing its economic interests. The caution with which the Chinese leadership announced its decision to send a mission to the Gulf of Aden shows that it on no account wishes to risk being suspected of aggressive intentions.[89] Beijing's current priority is to establish the credible naval power needed to fulfil the "new historic missions". The operation in the Gulf of Aden indicates that in the long term China intends to expand its naval force projection capacities.

The polarity between demonstrating power and seeking integration in which China has to define its global political role is also reflected in the national discourse of the political elites. While the liberal intel-

86 There is ongoing controversy over the size of China's defence budget. While the Chinese defence white paper 2008 puts it at 417.769 billion RMB (approx. €43 billion), estimates by the US Defense Department place it between €75 and €105 billion. Defence white paper 2008 (see note 2), section 1: "The Security Situation", and Office of the Secretary of Defense, *Annual Report to Congress: Military Power of the People's Republic of China 2008* (see note 25), "Military Expenditure Trends", 31.

87 Joseph Abrams, "Vietnam Orders Fleet of Russian Subs, Sending Message to China", *Fox News*, 7 May 2009, www.foxnews.com/story/0,2933,519341,00.html.

88 Evan S. Medeiros, Keith Crane, Eric Heginbotham, Norman D. Levin, Julia F. Lowell, Angel Rabasa and Somi Seong, *Pacific Currents: The Response of U.S. Allies and Security Partners in East Asia to China's Rise* (Santa Monica: RAND, 2009); Mingjiang, "China's Gulf of Aden Expedition" (see note 66).

89 Mingjiang, "China's Gulf of Aden Expedition" (see note 66).

lectuals urge constructive cooperation and believe that China should contribute to solving global problems through the framework of international institutions, nationalist forces call for China to establish power and political strength in order to enforce its interests in a new global order.[90] The way the international community deals with Beijing could decisively influence the outcome of this internal conflict.

Abbreviations

ABC	Atomic, biological, chemical
ARF	ASEAN Regional Forum
ASAT	Anti-satellite weapon
ASEAN	Association of Southeast Asian Nations
AWACS	Airborne warning and control system
C^4ISR	Command and control, communications, computers, intelligence, surveillance, and reconnaissance
CBERS	China-Brazil Earth Resources Satellite
CNO	Computer network operation
DPKO	Department of Peacekeeping Operations
ESA	European Space Agency
GMP	Global Maritime Partnership
IMINT	Imagery intelligence
INF	Intermediate-range nuclear forces
IRBM	Intermediate-range ballistic missile
ISS	International Space Station
MARV	Manoeuvring re-entry vehicle
MIRV	Multiple independently targetable re-entry vehicle
MRBM	Medium-range ballistic missile
NBO	Network-based operations
NCW	Network centric warfare
PLA	People's Liberation Army
PSI	Proliferation Security Initiative
SIPRI	Stockholm International Peace Research Institute
SLBM	Submarine-launched ballistic missile
SRBM	Short-range ballistic missile
SSBN	Ship submersible ballistic nuclear
SSN	Ship submersible nuclear
UN	United Nations
UN DPKO	United Nations Department of Peacekeeping Operations
UNTAC	United Nations Transitional Authority in Cambodia
WPNS	Western Pacific Naval Symposium

90 Mark Leonard, "What Next for China?," *Renewal* 17, no. 1 (2009), http://ecfr.eu/page/-/documents/Renewal_spring_2009_Leonard_China.pdf.