SECTION ONE

Introduction and Regional Context

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Introduction

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TAKEN TOGETHER, the chapters in this volume comprise a unique combination of studies of relevance to Taiwan's changing threat environment and Asian security. In addition to providing relatively straightforward assessments of recent major advances in China's air and naval power, this volume also addresses vital aspects of People's Liberation Army (PLA) doctrine and capabilities not often (or sufficiently) connected with the study of Taiwan's security. These include joint operations, war control, information operations, nuclear capabilities, strategy and doctrine, and region-wide power projection efforts. Also included are broader examinations of China's Asian security strategy and the regional security architecture. In many chapters (particularly in section three), attention is given to the impact of evolving PLA capabilities and views on critical aspects of deterrence stability and escalation control, especially across the Taiwan Strait. The overall result is a more comprehensive and complex picture of the potential Chinese military threat to Taiwan—and the larger challenge to Asia—than usually appears in studies of the subject.

The chapter on China's strategy toward Asia by Alex Liebman (chapter 2) provides an important context for the assessment of Chinese military modernization and the PLA threat to Taiwan. Liebman argues that Beijing's overarching strategic objective is "to increase its influence in Asia without provoking the emergence of a countervailing coalition of states." Its resulting strategy is thus to "deter without provoking,

reassure without appeasing"—a delicate and difficult task because, as Liebman states, "efforts at deterrence make signals of reassurance less credible (and vice versa)." He examines the tactics that China has used to achieve this challenging objective, including efforts to reassure its neighbors through its resolution of border disputes, pledges of noninterference toward weaker states, various economic development initiatives, and growing involvement in multilateral institutions. On the deterrence side of the equation, Liebman recognizes that China has at times employed potentially destabilizing military-political tactics to prevent what it regards as potentially threatening behavior on the part of other countries or Taiwan, such as increasing its military preparation, passing the anti-secession law, and engaging in proactive diplomacy to counter Taiwan independence.

Liebman focuses considerable attention on how China has used multilateral institutions and economic development initiatives to increase its influence in Asia and reassure neighbors in an attempt to offset the negative impact of its efforts to deter Taiwan. Although much has been written on Beijing's increased involvement in multilateral institutions, Liebman offers a different take on the issue; in order to achieve its conflicting goals, China is attempting to use the membership of institutions such as the Association of Southeast Asian Nations (ASEAN) Plus Three, the East Asia Summit (EAS), the Shanghai Cooperation Organization (SCO), the South Asian Association for Regional Cooperation (SAARC), and the Six-Party Talks to balance against stronger states and achieve control over the decisions of the group. As Liebman states, "by being selective in negotiations over the membership of each organization, China can shape the strategic context and prevent unfriendly coalitions from emerging as it gains a say in an ever-widening range of issues within these institutions." He dubs this strategy "hubs and spokes multilateralism" because it creates a set of overlapping institutions in which China is the key duplicated member. However, Liebman acknowledges that the success rate of this "hubs and spokes multilateralism" has been mixed; in most cases, China cannot unilaterally control the membership and cannot prevent other states from forming new organizations in which China is not a member.

Liebman argues that China's approach to economic development is designed largely to support its basic strategic objectives: "grow glob-

ally, reassure East Asia." In particular, its approach toward economic regionalism plays a role in its strategy to reassure its neighbors. Liebman reviews the past decade of East Asia economic integration and concludes that, contrary to popular belief, the economic effect of these agreements have been rather limited, while the political gains for China (in terms of convincing its neighbors that China's economic growth is beneficial to them) have been substantial. Moreover, he argues that China's efforts at regional economic integration are designed to reassure its neighbors, not cut off other powers from the region. Hence, given China's interests and goals in the region, China is likely to continue to encourage an East Asia that is open to foreign trade and investment.

Taken as a whole, Liebman shows that Beijing's Asia strategy can operate to constrain significantly Taiwan's political and economic maneuvering room in Asia while facilitating its efforts to deter Taiwan independence through both military and political means.

Section two examines in some detail several aspects of PLA capabilities and doctrine that are often insufficiently examined in standard studies of the Chinese military, despite their implications for Taiwan's security and the larger regional environment. In the first chapter of this section (chapter 3), Dean Cheng examines a central aspect of military strategy: joint operations. While the U.S. military has been conducting joint operations for decades, the concept only began to generate significant attention within the Chinese military in the 1990s, partially as a result of the successful U.S. military campaigns in the first Gulf War and in the former Yugoslavia. The Chinese military leadership realized that it must reorient PLA doctrine and operations to achieve sufficient levels of jointness, especially given the arguably growing likelihood of a Sino-U.S. confrontation over Taiwan. This became especially notable in 1999, when the PLA issued the so-called "Year of Regulations" that encapsulated its new approach to warfare.

By reviewing the evolution of PLA thinking on warfare through the analysis of major Chinese military writings, Cheng shows how the PLA identified, evaluated, and eventually began to adapt the concept of jointness in response to contemporary events. According to Cheng, based on observations of recent wars and trends in modern technology, the Chinese began to appreciate ". . . that joint operations would eclipse single-service operations" in the future of modern warfare. As a result,

the PLA developed a quasi-doctrine about joint operations; defining the concept and establishing its essential components, exploring differences from other strategies such as combined arms/services campaigns, and identifying its influence on command and coordination. Cheng argues that the PLA sees great promise in joint operations because they "offer the greatest chance of utilizing synergies among the PLA's services, including their various operating environments. . .and their respective technological strengths. . .to mitigate individual weaknesses."

However, Cheng also points out that, because the PLA's only experience with joint operations to date was the seizure of an offshore island from the Republic of China in 1955 (the Yijiangshan campaign), the Chinese military still has a long way to go until joint operations become an integral part of its military strategy and operations. At the same time, Cheng examines the ways in which the PLA has already begun to move toward joint operations, through changes in its training regimen and in the establishment of joint communications teams, for example. If achieved successfully, this shift toward jointness could have an enormous impact on the prosecution of future Chinese military campaigns, especially actions involving a maritime theater, such as Taiwan. To be effective, any attempt to apply force against Taiwan (and, quite possibly, the United States) would require extensive and detailed coordination between ground, air, and naval forces over a sustained period of time. Cheng's analysis shows that the PLA is serious about moving toward jointness, but faces daunting prospects; how successful the Chinese will be in shifting toward this new war-fighting approach, and how it will affect China's next military campaign, are yet to be seen.

Lonnie D. Henley's chapter (chapter 4) addresses another recent development in Chinese military doctrine that is of great relevance to Taiwan: the integration of the concept of war control. According to Henley, this is a new concept among Chinese security specialists and was discussed in print by military academic specialists for the first time around 2000. War control is "a wide-ranging activity uniting all the elements of comprehensive national power to shape the international environment so as to make war less likely." This includes preventing or containing the escalation of a political crisis into a military conflict, ensuring that China will be in a favorable position and will have the initiative should conflict occur, and, in that case, will be able to control

the conflict and ensure that military operations will serve Beijing's larger political objectives.

Henley examines the Chinese concept of war control as it applies to different stages of a crisis or conflict (e.g., efforts to shape the international environment, measures taken to manage a crisis should one occur, and those to be taken during war if crisis management fails). In this analysis, the Chinese identify various military measures that China could take to contain a war, such as military intimidation and deterrence, controlling the overall war objectives and military targets, and controlling the military operational parameters and war-fighting techniques. According to Henley, the Chinese clearly appreciate that it is important to control the pace, rhythm, and intensity of a crisis or conflict as well as the nature of the end of the war and the postconflict environment. He also notes that the Chinese place considerable emphasis on seizing the initiative in war control, but they do not seem to consider the possibility that this emphasis could contribute to unwanted escalation.

Henley argues that one should expect that in the coming years the concept of war control will continue to evolve in Chinese operational doctrine, with particular relevance to a Taiwan contingency. This doctrine already presents some implications for China's actions during a crisis, however. For example, the emphasis on seizing and maintaining the initiative makes it likely that large troop movements, the mobilization of strategic nuclear forces, and other threatening actions will occur in any serious crisis, regardless of whether Beijing actually plans to attack. Moreover, Henley notes that Beijing's approach to war control and crisis management reinforces the Chinese tendency to adopt a rigid stance on issues of principle at the start of crisis; China views this as "an effective tactic for gaining and maintaining control of the situation." Furthermore, if the PLA literature on war control does parallel the thinking of the Chinese leadership, an attack on Taiwan would most likely be designed to also achieve political goals rather than purely military ones, with military targets selected to "maximize the political impact on the enemy's will to fight," for example. Finally, and perhaps most troubling, Henley suggests that if a campaign is going poorly for China, rather than accepting defeat, war control theorists would advocate "bold and unexpected actions to create a more favorable environment for the final political struggle."[1]

The ability of the Chinese military to influence regional security and Taiwan's threat environment in particular extends beyond issues relating to PLA force modernization and operational deployment capabilities. In chapter 5, Roy D. Kamphausen and Justin Liang offer a more comprehensive assessment of how the PLA contributes to the projection of Chinese power and influence in Asia. They argue that the Chinese military is contributing to China's comprehensive national power (CNP) in three ways: by responding to crises, by contributing to deterrence, and by enhancing regional dialogue and understanding.

In analyzing how the PLA projects power by responding to crises, Kamphausen and Liang put forth a much needed analysis on China's role in UN Peacekeeping Operations (PKO). They point out that China's support for UN PKO allows Beijing to add a more significant military component to the pursuit of its foreign policy interests and helps the PLA advance certain capabilities more rapidly. The PLA is also actively involved in deterrence, the act of dissuading others from attaining goals or taking actions detrimental to Chinese interests. In this form of power projection, "military force or presence is present or implied in ways designed to influence the national decision making of other countries." Examples include deterrence of Taiwan, the United States, and to some extent Japan, through air surveillance, submarine patrols, surface missions, amphibious training exercises, and the development of its missile forces.

The PLA also projects power through its self-proclaimed efforts to enhance regional security (e.g., via military-to-military contacts with many of its neighbors and joint/combined military activities such as the 2003 anti-terrorist exercise involving China, Kazakhstan, Kyrgyzstan, Tajikistan, and Russia). In addition, the authors point out that China has numerous military-related facilities or friendly foreign locations (termed "access points") throughout South and Southeast Asia, the South China Sea, and the Pacific Islands. Such base-type arrangements could potentially be accessed for purposes of logistical resupply, maintenance, or relief from operational deployment.

Kamphausen and Liang conclude from their study that there are six major tasks in PLA power projection: (1) observe sovereignty and pay attention to borders; (2) intervene when in China's interests; (3) strengthen support for UN PKO missions outside of Asia; (4) strengthen support for multilateral operations, primarily in Asia, where China can assume a leading role;

(5) conduct small-scale deterrence missions; and (6) enhance naval presence missions. These have many implications for the PLA's future external role, specifically in Taiwan or North Korea scenarios, and for whether China would intervene using military force, even in other countries, when China's interests are at risk.

Taken together, the growing ability of the Chinese military to project power in the ways identified by Kamphausen and Liang will almost certainly enhance Beijing's influence on regional security. However, the authors suggest that it remains to be seen whether such influence will prove positive or negative on balance. They argue that, if deftly wielded, China's power projection activities might actually promote Asian stability by reinforcing more cooperative approaches to regional security. On the negative side, as Beijing increasingly projects military power throughout the Asia-Pacific region, a likely by-product is that Taiwan's sense of isolation and marginalization will grow.

Section three of this volume provides additional in-depth analysis of the PLA, but with a greater emphasis on the implications of PLA modernization for Taiwan's security and, in particular, on the dynamics of crisis stability and escalation control across the strait. It focuses on six specific military issues that arguably could play the greatest role in driving escalation and affecting the outcome of a U.S.-China conflict over Taiwan: the balance of air power, the balance of naval forces, Sino-American nuclear weapons doctrine, Chinese information operations, Taiwan's overall capabilities and defense doctrine, and U.S. force deployments.

In chapter 6, Kenneth W. Allen examines the concepts of deterrence and escalation for the air forces of China, Taiwan, and the United States, specifically in terms of preventing and prosecuting a conflict across the Taiwan Strait. As a basis for his analysis, Allen compares the basic assets of the PLA Air Force (PLAAF), Taiwan Air Force (TAF), and U.S. Air Force (USAF). He emphasizes that each air force is organized differently, so each would bring different assets to bear during a situation of deterrence and/or escalation. Activities that are relevant to deterrence or escalation are: weapon system modernization (in terms of both types and numbers), air force relations between Washington and Taipei, flight activity near the center line of the Taiwan Strait, reconnaissance flights, the forward deployment of air assets to the area, reserve mobilization, an air blockade, and possible air attacks.

Allen first reviews the history of the modernization of the Chinese, Taiwan, and American air forces and their relative capabilities. He points out that estimating the dynamics of air power in a serious crisis over Taiwan is fraught with difficulties. For example, it is difficult to determine how many aircraft each party would actually employ in a crisis. In addition, the state of U.S.-Taiwan air force relations, including the contributions of Taiwan's own defense industry, are a determining factor for how the United States would engage in a Taiwan scenario. Also, there are many potential flashpoints for future air conflict across the Taiwan Strait, including conflicts at the center line.[2] As Allen points out, air activity near the center line has become more and more frequent, with the PLAAF now flying to the boundary routinely. Given the close proximity of Chinese and Taiwanese air forces at this line, the potential for miscommunication and subsequent escalation is very high. Finally, Allen examines the policies and actions of the three air forces and demonstrates how actions seen as a deterrent on one side could be perceived as escalatory by the other. For example, U.S. bomber deployments to Guam and the stationing of cruise missiles there, as well as continued U.S. reconnaissance flights off China's coast, are seen as deterrence by the United States and escalatory by the Chinese; the Chinese see the purchasing of Russian weapons systems as deterrence, whereas the United States and Taiwan may see this as escalatory.

If a conflict does break out as a result of unintended escalation, Allen argues that, if Beijing can achieve air superiority, China will most likely be able to dictate the terms of conflict resolution. However, if the United States starts to bomb the PLAAF's airfields, it will have to move its aircraft farther away from the location of engagement. This means that the PLAAF will not be able to fly enough sorties for a long enough loiter time necessary to maintain air superiority. Whether or not the United States decides to take these measures has much to do with the rules of engagement (ROE). Because of their great relevance to escalation, deterrence, and conflict resolution in a Taiwan contingency, Allen assesses the future ROE of the Chinese and U.S. air forces. Even though these ROE are designed to prevent escalation, Allen explains, "the military doctrines underlying armed forces' operations of both countries can contribute to crisis instability and escalation as much as their force deployments." Only the political authorities in charge of the military forces could counter this

impetus, but if the conflict is going poorly, those same leaders "may seek to raise the cost to the adversary by widening the war and attacking targets previously declared off-limits by the ROE." In short, Allen argues, "the blend of capabilities, doctrine, and the dynamic of war produces the uncertainty that even initially prudent ROE may not overcome."

Bernard D. Cole, in chapter 7, also examines the complex relationship between capabilities and perceptions, but in terms of the naval power of China, Taiwan, and the United States. In particular, Cole provides a much needed analysis of the physical geography of the Taiwan theater and explains the challenges that it imposes for naval operations and escalation control in a crisis over Taiwan. High winds, shallow waters, and lack of suitable landing areas are some examples of why it is particularly difficult to conduct traditional amphibious assaults, anti-submarine operations warfare (ASW) operations, and even surface ship operations in the strait. These environmental factors also make it difficult for ships to accurately identify and locate other ships and determine whether they are under attack. In the words of Cole, this "literal and figurative cloudiness would reduce commanders' situational knowledge, increasing the chances of escalation due to the unintended consequences from their decisions." Furthermore, he also points out that the basic geography severely limits the viability of any defense by Taiwan against a seaborne assault supported by air operations.

Given these challenges, Cole assesses and compares the naval and commercial maritime strengths of China, Taiwan, and the United States as they would be understood in escalatory terms. As the PLAN modernizes, it becomes capable of conducting operations further from China's coast. However, this makes communication and logistics more difficult (e.g., because weather conditions worsen as ships get farther and farther from land). This "complicates maintaining effective command and control of those forces, which in turn exacerbates the problem of preventing unintended escalation during tactical operations at sea and in the air." The PLAN and Taiwan Navy are roughly equal in surface combatant capability, but the entry of the United States would tip the balance in favor of Taiwan. However, Cole points out there are both military and political limitations to this "entry." It would also take the United States time to deploy to the Taiwan theater, which would give the Chinese a great advantage. On the other hand, if the United States

did enter, "Chinese losses would no doubt draw Beijing to increase its commitments to battle, in terms of both vertical escalation (force size) and horizontal escalation (force capability)." Given these numerous variables, Cole employs a series of maritime scenarios to explore how all the factors would play out in real time; this examination of operational steps demonstrates the variety of escalatory measures that a maritime scenario offers. In short, though the maritime arena offers opportunities to exert pressure, send messages, and "teach lessons," it is also subject to misinterpretation, miscalculation, and unintended consequences.

Conventional capabilities are not the only factors that affect the potential PLA threat to Taiwan and the larger challenge the PLA poses to Asian stability. The nuclear capabilities and doctrines of both China and the United States could have an enormous impact on the dynamics of a crisis over Taiwan. In chapter 8, Brad Roberts analyzes both Chinese and U.S. military preparations in the nuclear realm in order to better determine what role nuclear weapons might play in a Taiwan contingency. According to Roberts, some of the main characteristics of China's nuclear posture have deep historical roots. The so-called "century of humiliation" has given China an intense desire to resist "nuclear bullying." The need to deal with the Cold War Soviet threat has given China an essentially defensive concept of nuclear weapons. The founding fathers of China's nuclear program were committed to creating only the "minimum means of reprisal" and this has left a legacy of a modestly sized retaliatory force. China's deep-seated antipathy to transparency continues to inform the making and articulation of Chinese nuclear policy.

Roberts reviews the ways in which China's nuclear posture has evolved over the last decade—and how the historical roots have given way to new circumstances. The PLA is engaged in a broad-based effort to modernize its doctrinal and operational concepts and this effort touches directly on China's nuclear force, the Second Artillery. But many questions remain about how this attempt on the part of the PLA to get its "intellectual house in order" applies to the role of nuclear weapons: Does China's emphasis in conventional missile doctrine on "seizing the initiative" and attacking the enemy's center of gravity (most likely meaning U.S. bases in the region) influence nuclear operational concepts? How does the PLA's new focus on jointness affect the role of China's nuclear forces in a conflict?

Roberts also highlights the ways in which China's nuclear posture is developing in response to the changing security environment, especially to its evolving strategic relationship with the United States. China wants to ensure the viability of its nuclear force and hence its credibility as a deterrent in the light of changes in the U.S. force posture and especially U.S. deployment of both non-nuclear strike systems and missile defense; both developments seem to strengthen the American capacity for preemption. This has led to debates in China about the credibility of China's no-first-use policy and how to reposture its forces as U.S. capabilities grow. Roberts reports evidence that China has decided not to change its declaratory policy but will make quantitative and qualitative adjustments to its nuclear forces as the U.S. posture evolves. China contends that modernization in these technical and operational realms is consistent with "defensive deterrence." In his discussion of the U.S. Nuclear Posture Review, Roberts notes that China does not play a central role in U.S. military planning like the United States does in Chinese military planning.

Roberts then assesses the prospects for nuclear crisis instability in a confrontation over the Taiwan Strait. He observes that the focus of both sides on how to ensure the credibility of deterrence has obscured their thinking about "failures of deterrence and the challenges of restoring deterrence intrawar or terminating a war gone nuclear on acceptable terms." Indeed, he argues that the potential for instability is significant. Both sides have serious misperceptions about the ways and circumstances under which the other side would employ nuclear weapons in a conflict. Roberts explores four questions that involve such misperceptions on both sides: Who would be the first to escalate? Would that state escalate by nuclear means? Would the further dynamics of escalation be manageable? How might a war with a nuclear dimension be terminated? Roberts concludes that analysts in the United States and China "have very different ideas about the dynamics of nuclear confrontation over Taiwan" and "their analyses proceed from different assumptions about how the other country would act in such a conflict." Even more disconcerting is the fact that both sides are confident in their potentially flawed assessments and in their belief that "strong action will induce the enemy to exercise restraint"—both of which could lead to miscalculations in war. Because "in war, both sides seem to want neither to use nuclear weapons nor

rule them out entirely," Roberts concludes that "a conflict over Taiwan could unfold in unpredictable ways in the nuclear dimension, with far-reaching consequences."

In chapter 9, James Mulvenon discusses one additional realm of great relevance to Taiwan in which China's military doctrine is evolving as a result of technological breakthroughs and doctrinal innovation: information operations (IO). According to Mulvenon, misperceptions about this sector persist that seriously affect assessments of capabilities and potential threats for both the United States and China. On the part of the United States, Mulvenon demonstrates that, contrary to the views of some analysts, the ideas on offensive IO promoted by well-known authors such as Shen Weiguang, Zhang Zhaozhong, and Qiao Liang/Wang Xiangsui are in no way representative of the Chinese military's position on the use of IO.

Nonetheless, Mulvenon argues that China does plan on using IO in a Taiwan scenario to affect the will of the Taiwanese people and undermine U.S. intervention. According to Mulvenon, Chinese IO strategists believe that the United States is overly dependent on computer networks, particularly computerized logistics systems, which could potentially be exploited through a network attack. Chinese theorists posit this as an essential part of a comprehensive strategy designed to force Taiwan to capitulate to Beijing that combines network attacks with a coordinated campaign of short-range ballistic missile attacks, as well as "fifth column" and information warfare attacks on Taiwan's critical infrastructure. He adds, however, that "the Chinese tend to overemphasize the U.S. reliance on computers" believing that "the U.S. system cannot function effectively without these computer networks." In reality there is much evidence to suggest that U.S. logistics personnel are currently capable of employing noncomputerized solutions if the network is down, though the logistics system is becoming increasingly automated and therefore more difficult to reconstitute manually.

Another common misconception is that the Chinese government or military has control over patriotic hacker groups within China. Mulvenon assesses this belief and concludes that these hackers are independent actors who are, at most, state tolerated or state encouraged. Finally, and perhaps of greatest relevance to U.S. and Taiwan assessments of the PLA threat, Mulvenon asserts that "China is winning the intelligence

war across the strait, raising serious doubts about the purity of Taiwanese intelligence proffered to the United States, the safety of advanced military technologies transferred to the island, and the ability of official Taiwan interlocutors to safeguard shared U.S. secrets about intelligence collection or joint war planning." Such dangers call into question the feasibility and reliability of U.S.-Taiwan intelligence-sharing and defense-planning efforts.

Mulvenon contends that these developments and perceptions relating to information warfare could reduce crisis stability in a variety of ways, stating "the real danger of China's emerging military capabilities is that they may embolden Beijing to make a fundamental miscalculation in a Taiwan scenario and consequently bring about a disastrous outcome for all parties." He argues that, for the sake of deterrence and escalation control, the United States needs to disabuse China of the idea that an attack on U.S. computer networks will dramatically affect the deployment of U.S. naval assets in a Taiwan scenario.

In chapter 10, Andrew N. D. Yang assesses key aspects of Taiwan's defense modernization and how Taiwan's overall capabilities and defense doctrine have evolved in reaction to perceived military threats from mainland China. In the case that China resorts to force to reunify Taiwan with the mainland, he argues that the PLA would have five distinct missions: (1) destroy Taiwan's defense capabilities, (2) cut off its defense links with the United States, (3) eliminate the Taiwanese government and replace it with one compatible with PRC interests, (4) coerce the Taiwanese populace to accept these imposed political arrangements, and (5) minimize PRC casualties throughout the whole process. In order to achieve these goals, China has designed a three-phase strike operation: initially strike Taiwan's critical strategic and military targets, impose a naval blockade followed by devastating air attacks, and conclude with an amphibious landing to seize control of the political center.

While PRC tasks are complex and multidimensional, Yang points out that Taiwan's defense modernization has only one aim: survival. With this goal in mind, Taiwan has modernized its defense structure in order to successfully execute countermeasures to each of the three phases of China's military strategy. For example, in the case of air attacks, the ROC needs to protect its command and control system from being disabled. Because of this, ROC forces have introduced "Project Resolute," a

multi-billion dollar effort designed to integrate the command, control, and communication of the three services and strengthen electronic countermeasures (ECM) and counter-countermeasures (ECCM). Furthermore, Yang states that Taiwan would like to improve its air defense capabilities by acquiring the Naval Area Defense (NAD) system from the United States, but the United States has yet to accept this request. To counter the second phase of a PLA operation of a naval blockade, Taiwan's navy has put increasing emphasis on improving its anti-submarine warfare (ASW) capabilities. Lastly, Taiwan's ground forces have undergone major streamlining and restructuring in order to better defend Taiwan against the third phase of PLA operations, an amphibious assault.

Because of the high tension across the strait, Yang states that Taiwan's political leadership has designed crisis management mechanisms to effectively deal with a crisis in ways that avoid miscalculation and unintended escalation. This process includes intelligence gathering and assessments and the convening of the National Security Council with the president in order to "make decisions on all internal and external emergency response recommendations suggested by responsible government departments and on interagency task force operations." Yang demonstrates how this process worked in the 1996 Taiwan Strait crisis. Even though crisis was averted in that instance, Yang argues that there are still clear defense reasons for why Taiwan needs high-speed anti-radiation missiles (HARM) and joint direct attack munitions (JDAM) for its current inventory. Although these weapons are generally seen as offensive in nature, Yang contends that "the primary objective of Taiwanese defense is to deter and suppress PLA's attacks on Taiwan" and that improving its capabilities serves to "send a clear and unmistakable message to Beijing that . . . Taiwan will not initiate a war against Beijing in the first place, but Beijing would encounter a devastating setback should it decide to do so."

Yang concludes by pointing out that Taiwan is building both defensive *and offensive* capabilities because, in the case of a Chinese attack on the island, the "Taiwan military must have the capacity to launch offensive operations to regain control over the Taiwan Strait." In Yang's view, such controversial capabilities ". . . are necessary to frustrate Beijing's wish for a short war and will thus provide an opportunity for the international community to intervene." Yang adds that, unfortunately, Taiwan's defense modernization remains "hampered by the inability of the execu-

tive and legislative branches of government to agree on the most appropriate level and type of budget allocations and force structure," which causes some outside observers to conclude that the military balance is shifting in China's favor.

Roger Cliff (chapter 11) concludes section three with an analysis of the relationship between PLA modernization and U.S. force deployments in Asia, while drawing certain implications for a confrontation over Taiwan that will likely prove quite controversial. Cliff examines current capabilities and trends involving the U.S. force structure in the Asia-Pacific region, including U.S. combat forces in Japan, South Korea, Guam, Hawaii, and Alaska, and analyzes their effectiveness against expanding Chinese force levels in the event of a conflict. He observes that the presence of larger numbers of increasingly modern PLA weapons presents a significant and growing challenge to the United States in certain situations. This challenge exists not simply because of the growing capability of such weaponry, but also because Chinese forces would enjoy a distinct advantage over the United States in many regional contingencies (e.g., regarding Taiwan) because Chinese forces would be operating very close to their home base. Cliff notes that such proximity could give them a particularly significant advantage if a Taiwan conflict began with Chinese preemptive or surprise actions. Overall, regarding Taiwan, Cliff observes that Chinese "anti-access" measures would "exacerbate the constraints on U.S. military capability caused by the dearth of air bases near Taiwan and the limited number of U.S. forces forward deployed in the Western Pacific."

Looking toward the future, Cliff believes that the challenges posed by the PLA will only increase over time, assuming that China's military modernization program continues apace. Cliff states that the Chinese defense industry is now beginning to produce weapons systems that are comparable to those in the U.S. inventory. He asserts that, by 2015, the PLA could have, for example, a dozen modern destroyers with air defense capabilities comparable to the U.S. Aegis system, several dozen modern diesel-electric attack submarines, and perhaps a dozen nuclear-powered type 093-class attack submarines. In addition, it is also possible that China will develop the missile technology and C4ISR necessary to hit a moving ship at sea by that time.

On the other hand, Cliff also recognizes that the United States will not be standing still as China's military continues to modernize. Washington intends

to increase in its total force the number of Aegis ships in service from seventy to eighty and to commission around six new DDG 1000-class destroyers. The United States plans to decommission about ten Los Angeles-class subs and replace them with Virginia-class ships, which are capable of carrying 30 percent more missiles and torpedoes. The United States also plans to replace about a fourth of its total fighter inventory with more modern systems. U.S. theater ballistic missile defense capabilities will also increase. In addition to upgrading its total force weapons systems, the United States is planning to make significant changes specifically to its force posture in the Asia-Pacific theater, according to Cliff. For example, the United States plans on replacing the *Kitty Hawk* in 2008 with the *George Washington*, a nuclear-powered Nimitz-class carrier that carries 50 percent more fighters and is capable of generating twice as many aircraft sorties per day; also, three additional attack submarines will eventually be based in Guam, raising the number of attack submarines based in Pacific ports to thirty.

Nonetheless, Cliff concludes with the controversial assertion that, despite these planned changes in the U.S. force posture, "the balance of military power in the Western Pacific is shifting in China's favor." This presents particularly dangerous implications for the Taiwan situation. He argues that even with the planned changes ". . . by 2015 China is likely to enjoy a significant quantitative advantage in a conflict with the United States [over Taiwan], particularly in its early stages." Cliff outlines in detail nine adjustments that the United States must make to its force posture in order to reverse the trend, such as carrying through with its current plans for force posture changes, increasing "its capabilities to detect a surprise use of force despite concerted denial and deception efforts by the PLA," and increasing "the readiness levels of air and naval forces in Hawaii and on the west coast of the United States so that they can be surged to the Western Pacific on short notice." The United States also needs to increase the quantity and quality of U.S. air and naval forces in the Western Pacific; strengthen active air defense by, for example, deploying ballistic missile, cruise missile, and manned aircraft defenses; and reduce the vulnerability of U.S. air, naval, and logistics facilities in the region to attacks by covert operatives. The United States should also look into forward-basing even more air and naval forces than planned in the region, possibly in Guam or Singapore, and continuously increase the quality of these naval and air forces over time.

The two chapters that constitute the final section of this volume (section four) examine the possible future evolution of Taiwan's threat environment and the larger regional security environment. In chapter 12, Alan D. Romberg focuses his analysis on the current East Asian security architecture, its possible evolution in the coming years, and its implications for the PLA and Taiwan. Given current regional dynamics, Romberg argues that the term "security architecture" may be an overstatement; instead, he conceptualizes this structure more as "a set of security issues and relationships—some formal, most not—that constitute the totality of the present reality." Romberg states that Chinese military modernization is obviously a major factor that can significantly influence the future Asian security environment and Taiwan in particular. He notes that PLA modernization will continue to be driven in large part by the necessity for Beijing to be prepared to deter, delay, deflect, and, if necessary, defeat the United States in the Taiwan theater.

Romberg identifies three sets of largely political variables that, in his view, will be most important in determining how the Asian security environment evolves over the next fifteen to twenty years and therefore how the putative PLA threat to Taiwan will evolve: (1) the overall situation within Taiwan and in cross-strait relations, (2) U.S.-PRC strategic relations, and (3) Japan's security posture. Romberg considers different possibilities for the future of cross-strait relations that will be play a key role in overall regional security—for example, whether China decides to take a pragmatic approach, reducing military tensions and allowing Taiwan to have a significant level of "international space," and whether the Taiwan leadership continues to push for *de jure* independence. Also, Romberg argues, "the state of Sino-American relations will be of crucial importance to China's perception of its security needs and its decisions about PLA size and configuration," thereby affecting how China positions itself militarily in the region. The fundamental issue in the Sino-Japanese relationship, Romberg states, "is not history or shrine visits, but the contemporary competition between Japan and China for power and influence"; he explores different scenarios about how both sides deal with this competition and assesses their implications for stability in Northeast Asia.

Romberg identifies four other factors that might not fundamentally alter China's strategic aims, but that could, nonetheless, play an important

role in determining the future regional security environment: terrorism, U.S. alliances, economics, and energy developments. For example, given the importance of the U.S.-Japan and U.S.-South Korea alliances to American security and strategic interests, Romberg states that it is likely that U.S. policy will be designed to rectify any weaknesses in them; failure to do so would have enormous consequences. A major act of terrorism could also affect security relations in Northeast Asia, even if the attack occurred elsewhere, as could an economic downturn or cutthroat competition over energy resources.

Romberg posits that "even in the most optimistic scenario, and no matter how smoothly relations are developing across the strait or between Washington and Beijing, PRC leaders will be unwilling to forego a deterrent capability against Taiwan independence and U.S. intervention in a Taiwan contingency." Therefore, he recommends that the United States maintain a hedging strategy, which includes not being complacent about its current technological lead in terms of military hardware. At the same time, *how* the United States approaches China—whether or not hedging is carried out as a "containment" strategy or casts China as a presumed adversary—will be crucial to successfully managing strategic relations. In this respect, he concludes, the future security architecture of East Asia, and how the PLA views and reacts to it, is very much in the hands of the United States; the U.S. government needs to understand this and to adequately factor it into future decisions.

In the concluding chapter, Michael D. Swaine and Oriana Skylar Mastro assess the implications of the analysis presented in sections two and three (along with other more recent scholarly analyses) for our understanding of the evolving PLA threat toward Taiwan and the larger challenge that the PLA poses to the Asian region. They point out that the preceding chapters identify three critical components essential to determining the nature of the future PLA threat to Taiwan: relative PLA capabilities, the escalatory dynamics of a Taiwan crisis, and the impact of the future evolution of the regional security environment. The authors conclude that the balance of power in the Taiwan Strait is not unequivocally shifting in China's favor. However, several features of Taiwan's security environment clearly provide reasons for significant concern. Specifically, the combination of growing Chinese military capabilities in key areas, the high stakes involved for Beijing (and Washington and Taipei), and China's apparent

propensity to (a) signal strong resolve in a crisis through both military and diplomatic means, (b) emphasize seizing and maintaining the initiative, and (c) assume that it would possess greater resolve than the United States in a crisis over Taiwan could together increase the likelihood that China's leaders might employ force under extreme circumstances. They add that the views toward military deterrence and crisis management of both Taiwan and the United States could contribute to such a dangerous situation—largely via the continuation of Taiwan's arguably inadequate military response to the growing threat and America's tendency to assume that it will continue to enjoy escalation dominance in a crisis with China, while also prizing military initiative and resolve.

Swaine and Mastro also point out that the larger regional security environment will likely exert an increasing influence over the threat to Taiwan in the years to come in two important yet indirect ways: as a result of both likely enhancements in the U.S.-Japan security alliance and changes in the larger U.S. military posture in Asia, and possible changes in the bilateral relationships that Beijing and Washington enjoy with other countries throughout Asia, including South Korea. They conclude that the former could produce contrasting consequences for Taiwan's security. On the one hand, if properly handled, the strengthening and expansion of the U.S.-Japan security alliance could enhance the ability of the United States to deter a possible Chinese use of force against Taiwan, despite considerable improvements in PLA capabilities. On the other hand, if mismanaged, a stronger alliance could greatly exacerbate overall Sino-American strategic tensions and deepen Chinese fears that Taiwan might seek *de jure* independence with American and/or Japanese support or acquiescence. Furthermore, should deterrence fail in the Taiwan Strait, an enhanced U.S.-Japan alliance relationship would almost certainly ensure Japan's significant, early involvement in a serious conflict, deepening the adverse consequences that such a conflict would pose for the region.

The impact of Chinese and American bilateral relationships with other regional actors could also vary enormously, depending largely on how Beijing and Washington manage these relationships. If deftly managed, Beijing's relations with Asia could not only further constrain Taiwan's strategic support in the region, but also perhaps limit U.S. options in an escalating crisis or conflict with China over the island. This, of course,

would also depend on U.S. behavior. On the other hand, if properly handled, regional relations with both Beijing and Washington could also act as a mutual deterrent, and brake, on possible provocations originating from Beijing, Washington, and Taipei. The authors conclude that it is simply too soon to tell how the regional security environment might eventually evolve to influence Taiwan's security. However, absent a major shift in direction, they believe that most nations in the region will continue to prefer to stay "outside" the issue as much as possible.

The authors also draw several recommendations for future actions that the United States could undertake to reduce the threat of conflict confronting the United States, China, and Taiwan. Most broadly, the United States needs to continue to improve its ability to react swiftly and with sufficient force to deter or shut down a PLA attack—preferably without escalating the confrontation greatly by striking the Chinese mainland early on. This means that U.S. forces must, on the one hand, maintain effective countermeasures against any significant attempt by Beijing to delay U.S. deployments to the vicinity and, on the other hand, sustain an unambiguous ability to interdict Chinese forces without attacking a wide range of targets on Chinese territory. In support of this objective, the United States should strengthen the defenses of its regional bases and military assets against Chinese attack in a variety of ways and forward deploy some additional forces. In addition, Washington should also reduce some of its operational vulnerabilities by strengthening computer network defenses and conduct exercises in which it is forced to process information in different ways, such as deploying forces in the event of a computer network attack.

The authors conclude that Taiwan needs to overcome its domestic political problems and devote more resources to defense. Moreover, Taipei needs to focus such defense efforts on enhancing its capacity to fend off Chinese military coercion (or an outright attack) for at least two weeks without resorting to actions that could dramatically escalate the crisis or conflict, such as preemptive strikes against mainland targets. This should include the strengthening of operational security at key military facilities, as well as the security of Taiwan's entire intelligence and civil infrastructure.

Finally, the authors identify several actions that the United States and China could undertake to reduce the chances of inadvertent escalation

in a Taiwan crisis, including efforts to: expand mutual understanding of each side's hostile images and assumptions through a scholarly dialogue and related elite surveys; raise awareness and understanding within both governments of the dangers of Sino-American political-military crises and develop new tools for managing them through "track-two" dialogues and bilateral crisis simulations; enhance crisis communication through the creation of a joint governmental political-military working group designed to develop a set of procedures and mechanisms for improving crisis signaling; and establish clear rules of engagement for naval and air forces that could reduce the propensity for escalation.

NOTES

1. For a detailed examination of Chinese views on crisis management that to some extent confirms (and to some extent departs from) Henley's observations, see Michael D. Swaine, Zhang Tuosheng, and Danielle Cohen, eds., *Managing Sino-American Crisis: Case Studies and Analysis* (Washington, D.C.: Carnegie Endowment, 2006).
2. The "center line" is a boundary that both Taiwan and China have informally respected since the 1950s.