Chapter 4
An Unmanned South China Sea? Understanding the Risks and Implications of the Arrival of the Digital and Robotic Revolution in Military Affairs in the SCS

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4.1 Introduction

Much has been written in the recent years on the SCS and its possible arising conflicts. Some (Kaplan 2011; Mearsheimer 2014) have argued that it will become one of the defining conflicts of the twenty-first century—if not the most. Others (Chen 2015) argue that it should not be hyped as "the conflict" of the twenty-first century, but nevertheless argue that it would cause serious diplomatic, political and military headaches for the actors involved, while some authors (Taylor 2014) believe that the conflict potential of the SCS is grossly overstated and should be just treated as a regional conflict. What the large majority of academics do agree on is, however, that the conflict is a possible test case on how the world will act and react toward the ever increasing power and rise of China, and how China on the other hand intends to use its newly acquired and increasing power status and that as such the SCS conflict is and will in the near future be one of the major political issues in the region, with the potential to escalate into a serious diplomatic and possible (limited) military conflict (Glaser 2012; Mearsheimer 2010, 2014). Given this it comes as no surprise that in the recent years an extensive number of reports, policy briefings and books have been published. These have focused on wide range of topics ranging from the motivations of the authors, the drivers of the conflict, the actors and their respective policies, the various para-military units deployed and even managed to include some culinary terms to describe certain parts of the conflict—Salami Slicing and Cabbage tactics have by now become commonly accepted terms in the debate on the SCS (Farley 2014; Glaser 2012; Jakobson 2014; Haddick 2014). Furthermore, the more practical side of the SCS has likewise

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widely been discussed: Breaches of sovereignty, possible air identification zones, EEZs, building of new airstrips, using coral reefs as islands, deploying oil rigs, sunken-boats-declared-islands, overhauls of coastguards and new naval procurements by all involved nations have been widely discussed in various forums, publications, blogs, conferences and websites (Bitzinger 2013; Burgers 2015; Heginbotham 2014; Kuok 2014; Yang 2015). As such we can conclude that the debate on the SCS and its future direction has been extensive and perceived from many angles. One angle that remains under-studied and has only marginally been discussed is how the arrival of new military technology would influence the SCS conflict. This is particularly true for the introduction of unmanned systems. It goes without arguing that unmanned systems have already affect and will even change the conduct of military operations other than war (MOOTW) (Singer 2009). As P.W. Singer outlined in his book Wired for War the digital and robotic revolution in military affairs (DRRMA) is causing a paradigm shift in military, security and political affairs and has caused significant drama around the world (Singer 2009). The robotic leg of the DRRMA has manifested itself most visibly in the Middle East—the wars in Afghanistan and Iraq are prime examples of DRRMA military operations. Increasingly the robots are arriving in East-Asia as well (Brimley et al. 2013; Chase et al. 2015). The U.S. Air Sea Battle concept—which is clearly envisioned for maritime operations in East-Asia—leans heavily on the use of unmanned systems, Japan and South-Korea are heavily invested in procuring next generation UAVs and China has recent years greatly expanded its UAV capabilities (Easton and Hsiao 2013; U.S. DOD 2013). No unmanned systems have to-date been used in the SCS, but it is certainly only a matter of time before this changes: China, Taiwan, the United States, Japan, India possess unmanned capabilities (in varying degrees). It is therefore not a question of if, but rather of when unmanned systems will appear in the skies as well as on and below the water of the SCS (Ibid). These systems have in the author's opinion the potential to significantly alter or even completely change the current (human) dimensions of the SCS conflict. The absence of humans allows namely for a much more assertive (and as confrontational) behavior and with no rules, norms nor a framework existing in the SCS the questions remains how robotic systems would be applied and foremost how opposing actors would deal with them (Brimley et al. 2013). Would the arrival of the DRRMA cause a storm in the already unruly waters of the SCS? A review of the current literature does not automatically bring the desired answers: Eglehorn from The Naval Postgraduate School, Chase, Gunness, Morris, Berkowitz and Purser from RAND, Chang, FitzGerald and Jackson from the Center for New American Security, O'Rourke from the Congressional Research Service, Davis from Bond University in Australia, and Hsu, Murray, Cook and Feld from U.S.-China Economic and Security Review Commission have in the last 2 years researched and reported on the possible role of unmanned systems in the SCS. Much of this research however was undertaken as part of larger research on topics ranging from possible arms races in wider Asia, the future military development of the PLA, unmanned systems in East-Asia to military developments in the near seas and broader UAV development by the Chinese military forces. Furthermore, much of

the research has been conducted from a clear US perspective,[1] focuses primarily on China and even the research that focuses on unmanned systems in the SCS is mainly limited to UAVs rather than the full spectrum of the U-abbreviations (UAVs, UUVs and USV respectively) (Chase et al. 2015; Hsu et al. 2013; O'Rourke 2014).[2] As such a knowledge gap on this topic remains and this chapter therefore hopes to contribute to closing this gap.

4.2 Actors, Stakes, Motivations, Recent Developments and Changing Military Tides

Albeit the SCS is (still) secure and safe it has been far from stable in recent years. Much of the instability in the region comes from the competing claims of sovereignty over various swaths of the SCS by the actors involved (Brunei, China, Indonesia, the Philippines, Taiwan and Vietnam). Further contributing to the instability and the willingness of the actors to defend their claims are the recent discovery of sizable reserves of gas and oil, which further raises the economic stakes (Lu 2014, p. 4). Although the competing claims go back several decades they have only intensified in the recent years as China started to use its increasing diplomatic, economic and (para)military might to seek larger control over parts of the SCS, thereby increasingly causing friction and conflict with the other actors (Taylor 2014). Chinese control over the SCS would not only be a breach of their sovereignty (in the case of Vietnam, Taiwan, Brunei, Indonesia and the Philippines), but could also threaten the free shipping lanes on which these actors—and the United States and Japan—are economically dependent. It therefore becomes obvious what is at stake for the nations involved in the SCS conflict—their principal economic prosperity and in the case of China the survival of the Chinese Communist Party (CCP): The CCP is dependent on a continuous economic growth rate of around 7 % a year to provide its citizens moving from the countryside to the cities with jobs and as such economic prosperity and progress (Xu 2011). The kind of economic prosperity and progress which has been at the basis of the CCP's survival in the last four decades and which will ensure that the party can celebrate its 100 year anniversary in 2021 (Herscovitch 2014; Xu 2011). This in turn can partly explain China's assertive behavior in the recent years: It is seeking to secure one of its main export routes. The aim to secure its trade route is nothing new under the sun: the SCS has been one of China main trading routes for a very long time. What however has changed in recent years and which explains its assertive and changed policy are its increased political clout accompanied by ever greater diplomatic, economic and (para) military might which have enabled China to undertake a much more assertive policy. This assertive policy has foremost focused on more

[1] CSS, NPS, RAND and US-CN ESRC are all US government organizations.

[2] It needs to be noted that due to language restrictions the author has only be able to look at literature published in English/German/Dutch.

aggressively claiming the nine-dash-line, which by the other actors is perceived as a clear attempt to dominate the waters of the SCS (Ba 2014, p. 1; Cronin 2014, p. 25; Graham 2014, p. 63).[3] These new policies have triggered a backlash among the other nations active in the SCS and have caused increased diplomatic conflict and awoken the other actors in the region, with Vietnam, the Philippines and increasingly Japan and the United States taking the lead in countering the perceived Chinese threat (Mearsheimer 2010, p. 382). The other actors are engaged in it as well but to a lesser extent: Taiwan controls some islands, but due its longstanding complicated relations with China and their mutual recognition of their respective claims, the degree of conflict between both nations has been relatively limited. Brunei, Indonesia and Malaysia have as a result of their limited diplomatic power and military capabilities, and in the case of Malaysia friendly relations with China, limited their degree of involvement in the conflict.

Vietnamese and the Philippine efforts to defend their territory manifested itself most visibly through deploying more (and more aggressively) para-military naval assets in the region. This has in turn lead to the infamous water-spraying clashes between the coast guards of China, Vietnam, and the Philippines. Clashes have occurred as well in dryer places such as the UN Law at Sea tribunal and at other diplomatic settings (Cohen 2014, pp. 22, 23; Jia 2014, pp. 70–81).

Japan and the United States—as actors with no direct claim in the SCS—have not had the same para(military) presence in the SCS, but have taken increasingly assertive diplomatic stances in the conflict, with the US denying the Chinese claims and disapproving of the "provocative Chinese acts in the region" (Glaser 2014, pp. 53, 54).[4] Beyond the diplomatic offensive the U.S. has opened a military charm offensive as well: It re-established defense ties with the Philippines, seems willing to modernize the Philippine's naval force, has established very modest (naval) military relations with Vietnam and seeks to station up to four Littoral Combat Ships, which are foreseen for operations in coastal waters such as the SCS in Singapore (Glaser 2014, p. 57–59).[5] Japan has likewise condemned Chinese behavior, is considering to deploy naval and air assets in the region and has established military relations with the Vietnamese armed forces (Koda 2014, p. 93; Manyin 2014,

[3] The so called nine dash line (also referred to as nine dotted line) refers to the demarcation line used by the PRC in the SCS. The original line consisted of 11 dashes and was first formulated by the ROC. With the change of government in 1949 the PRC took over the ROC claims, while the ROC—now in Taiwan—continued to claim the nine dash line simultaneously. As most of the territory claimed under the nine dash lines (90 % of the territory of the SCS) overlaps with Philippine, Vietnamese and Brunei claims in the SCS it has become one of main sources of conflict within the SCS. Currently, no legal framework underlays the claims (as they should be based on land masses, which China nor Taiwan does posses to the extent they can claim the degree they do now) and as such there are rejected by all other actors.

[4] Gearan (2014).

[5] Bradsher (2013), Gady (2015).

pp. 1, 22).[6] India has increasingly got engaged as well, with the sales of naval military hardware to Vietnam and the acquisition of Vietnamese oil concessions in the SCS.[7] It thus becomes understandable why the seas in the SCS have gotten stormy in the recent years: Two (China and the U.S.) of the world major powers are present with opposing views, emerging major power India is increasingly involved, Taiwan has clashed several times with the Philippines and Vietnam and the Philippines are actively resisting Chinese incursions (Lu 2014, p. 2). Further adding to the unruly waters are (a) the minor clashes that have broken out between the nations para-military coastguards (b) the fruitless diplomatic initiatives which have not yielded the desired result and (c) the increasing possibility that local and external actors (Japan and the United States) are increasingly considering the possible deployment of military assets. The deployment of military units would mark a sharp turn away from the current situation in which the focus has been on the deployment of para-military units, such as the actors' respective coastguards. Spraying water has however so far been relatively harmless, particularly with the temperatures in the SCS, spraying bullets, however, would be a completely different story.

Yet, if we look at the broader military dynamics in the region the likelihood that in future only water will be sprayed is slowly decreasing. The military tides in the SCS are—much like its waters—gradually changing and are becoming increasingly stormy as well. Military spending in the region has exploded in the recent years and has resembled something of a Black Friday scene at Walmart: Queue up and buy, buy, buy![8] According to the Stockholm International Peace Research Institute, which produces the annual overview of military spending, military spending in Asia has risen over 62 % in the last decade (Perlo-Freeman and Solmirano 2014, pp. 4, 5). Now this is an impressive number, but when placed in a global defense spending context, the degree of the increase becomes even more apparent. In all other regions—with the exception of the Middle East—defense spending has decreased in the last years with the exception of South-East and East-Asia. In both regions the defense spending has increased for over a decade continuously, with foremost China and Vietnam leading the spending boom.[9] Furthermore, since

[6] This would mark the first time that Japan air and naval military forces would be stationed for a longer period in non-Japanese Asian area of operations. For further information see http://www.bloomberg.com/news/articles/2015-02-04/japan-to-consider-expanding-navy-patrols-to-SCS (accessed on 24/02/2015) and http://thediplomat.com/2014/10/vietnams-extensive-strategic-partnership-with-japan/ (accessed on 24/02/2015).

[7] http://www.ndtv.com/india-news/india-to-sell-warships-to-vietnam-increase-footprints-in-SCS-715108 (accessed on 27/02/2015).

[8] http://www.reuters.com/article/2012/10/07/us-defence-southeastasia-idUSBRE8960JY20121007 (accessed on 27/02/2015) and http://www.dw.de/sipri-southeast-asias-defense-build-up-is-a-balancing-act/a-17860646 (accessed on 27/02/2015).

[9] Of all actors involved in the SCS dispute only Taiwan has in the recent years decreased its military spending. All other actors have increased their defense spending.

2012 the region spends more on defense annually than the western and central European nations (Dowdy et al. 2014, p. 6; Perlo-Freeman and Solmirano 2014, pp. 3, 5). In a recent report the global consulting firm McKinsey even argued that South-East Asia is "the next growth opportunity in defense" (Dowdy et al. 2014, pp. 5–7).[10] This raises the question of where all this extra money is going to and second, who is spending all this money? The McKinsey report, as well as the SIPRI year report and Bitzinger's paper indicate that much of it has gone to naval and air military hardware procurements, with land forces only seeing a moderate increase in budgets. The procurements range from next generation radar systems, to fourth and fifth generation jets, silent submarines, missiles foreseen for air, land and naval strike capabilities, amphibious capabilities, stealth ships, new destroyers and corvettes, and even aircraft carriers—the ultimate symbol of military might in naval affairs (Bitzinger 2011, pp. 8–13; Dowdy et al. 2014, pp. 2–9). What stands out in this spending spree is that much of it is focused on procuring high-tech military hardware which is capable of operating in the highest spectrum of violence. Prior much of the defense budget of the actors was spend on relatively 'simple' systems, such as small naval vessels that would not be able to compete in the highest spectrum of military violence (Scharre 2012). Much of the increase in defense spending can be attributed to a single actor, which has increased its defense budget in the last decade, by 170 %: China (Perlo-Freeman and Solmirano 2014, p. 2). The increased Chinese spending has focused on the procurement of new advanced systems and has come hand in hand with high investments in military R&D. The spending spree has manifested itself most visibly in the greatly increased capabilities of the People Liberation Army Navy, which has turned from a brown-water force to a green water navy in record time, and is currently on track to become a blue navy in the next decade (Bitzinger 2011, p. 7). Probably the best visible manifestation of this is the PLAN's new pride, the Liaoning aircraft carrier. The former Ukrainian vessel—which was at one point foreseen as a casino—is now a newly refitted aircraft carrier and is used by the PLAN to gain experience in complexity of operating an aircraft carrier. Having gained operational readiness of the Liaoning in a quite short time span indicates how much China seeks to join the league of aircraft carrier nations. Not only does China plan to join this league, it is directly aiming for a top spot, as it is currently constructing two aircraft carriers and intends to build another five in the decade(s) ahead.[11] Beyond the aircraft carriers, the PLAN has been steadily increasing its diesel submarine fleet, has increased the number of nuclear attack submarines to five, and in the last decade, has taken four boomers—ballistic missile submarines—into operation and is producing at a fast rate Type 52D guided missile destroyers, which in capability can match the current U.S. Navy Arleigh Bruke-class destroyers.[12] What primarily

[10] Ebbinghausen (2013).

[11] Blanchard and Lim (2011).

[12] Osborn (2014), Page (2014).

stands out in these naval developments is the degree of military sophistication of the systems. As such, it seems that the Chinese defense industry has (partly) mastered the production of high-end and high-tech military hardware. Further examples of this are the development of fifth generation jet fighters, such as the J-20 and J-31, which could be able to compete with the F-35 JSFs, and an introduction of a new generation of cruise and ballistic missiles such as the infamous DF-21D, which is unpleasantly known with the US defensive establishment as the "aircraft carrier killer".[13] What furthermore stands out in the Chinese military expansion is that much of the new hardware would enable it to increase its power projection radius. Although it is clearly not to the same extent of the United States—which is capable of globally projecting its military power—China will in the coming years increasingly become capable of projecting power beyond its horizon.[14] Although China is still far from becoming the dominant military actor in the broader Asia region, its increased capabilities have made it currently without doubt the strongest military actor in the SCS. However, increased defense budgets and increased capabilities do not automatically translate into increased tensions. Most nations would follow a similar model of military development and expansion when their economy and respective economic interests grow. Furthermore, Chinese defense spending as a percentage of its GDP has hardly increased and has hovered around the 2.0/2.1 % in average annual number, quite comparable to the 2 % required for NATO members and very well below the US, which spends 3.9 % of its GDP on defense spending (Perlo-Freeman and Solmirano 2014, p. 2). As such, we could argue that China is simply following a 'natural' model of upward economic, diplomatic and military mobility. However, China has managed to use these newly acquired powers in such a (to some extent counter-productive) way that it is increasingly perceived as a threat to regional stability rather than an actor contributing to it. Indeed, China's position in the conflict over the Diaoyu/Senkaku islands, its establishment of an air identification zone, its increasing aggressive air patrols and its building of islands in the SCS are prime indications of how not contribute to regional stability. It comes thus as no surprise that the others actors involved in the SCS have became wary of the Chinese military development and choose not to sit back, relax and enjoy their flights. Rather, all nations involved decided to fly their own course and have increased military spending, which has triggered analysts and academics alike to compare the current arms build up with the British-German naval race a century ago (Mearsheimer 2010, pp. 383, 388). Much like the fear of mobilization, which was the main driver behind rapid outbreak of World War One (WWI), a similar fear could develop in which other nations in Asia-Pacific would try to keep up with Chinese military spending and effectiveness in order to still have a credible deterrent against possible Chinese incursions. However, the clearly increased spending of Vietnam, Taiwan, the Philippines and Indonesia is not even remotely

[13] Keck (2014).

[14] E.g. the Chinese contribution to the anti-piracy mission off the Somali coast.

close to the Chinese increase in defense spending. The combined defense budgets of these nations is not even 20 % of the Chinese defense budget (Perlo-Freeman and Solmirano 2014, pp. 2, 4, 5).[15] Nevertheless, these nations are actively trying to at least keep up with the military build up of China: Vietnam has recently acquired six Kilo class submarines from Russia, is considering buying Russian fighter jets, might receive naval vessels from Japan and is upgrading its military installations and harbors (Thayer 2014a, b, pp. 136–141). The Philippines have been trying to upgrade and acquire new naval vessels, and are trying to restart its (antique) air force and are considering closer defense relations with the United States. Taiwan is actively modernizing its naval forces with stealth ships and second hand vessels from the US Navy and is increasingly effective in the development of indigenous cruise missiles (Burgers 2015).[16] These keep-up-efforts will, however, have only a limited deterrence effect on the Chinese military capabilities as China simply outspends the other nations.

Thus the military tide in the SCS has turned widely in favor of China and will increase to do so in the future, even if larger military actors such India, Japanese or the United States decide to deploy naval forces to the SCS.

Given this military dominance and prior patterns of political and diplomatic behavior it can be expected that China will utilize (to a certain extent) on its new military might, and as such could deploy its naval and air assets in what it deems areas of core interest (Glaser 2012, p. 3). Albeit deployed, they will most likely not be used for direct military action, but rather as a show of force (particularly the future carrier groups). The value and effect such a show of force can have is keenly known to the Chinese military and political leadership who have not forgotten the Third Taiwan strait crisis in 1995, where the presence of two U.S. carrier battle groups effectively changed the strategy of the Chinese leadership (Thies and Bratoon 2004, p. 571). It is therefore not unlikely that the Chinese leadership aims to use their future battle carrier group(s), or other naval vessels for that matter, in a similar matter: As a diplomatic and political tool to enhance its claims in the SCS. This scenario could become even more likely given that the other nations with territorial claims in the SCS have few means and capabilities to even remotely deter a strong PLAN force. This in essence leaves only the U.S.—and possibly Japan or India—with the capabilities to actually deter a possible PLAN fleet sailing into the SCS. However, neither the United States, nor Japan and India would most likely risk a major international political and possible military conflict with China. Given the close economic relations and mutual economic dependency it seems highly unlikely that any nation is willing to risk a sustained military conflict. Rather, what seems more likely is that a state of a phony conflict could develop in which the

[15] Mc Donald (2014).

[16] However, the question here arises to which extent these systems are foreseen for the SCS area of operations, as a Taiwan strait conflict remains the clear military priority for Taiwan and the modernization of the PLAN has clearly affected the military balance in the Taiwan Strait as well.

conflicting sides would seek to deter the adversary and make it consider a retreat via actions such as the locking-on of fire radars and close fly-bys of military jets. Such actions do not actually constitute military violence, and should be regarded as moves in a political game of bluff poker, in which the main aim would be by either side to convince the adversary to retreat and give in to the other's political demands—without the use of violence.

It therefore seems appropriate to conclude that the tensions in the SCS will increase in the coming years as all the actors involved are (a) increasingly vigorously enhancing or defending their claims (b) are building a military deterrence and (c) seem willing to use military bluff poker actions for gaining favorable political outcomes. At same time these tensions will be most likely non-violent and be primarily enacted by China. Yet, they still open up the possibility of a negative spiral in which all sides would try to militarily over-bluff the other.

4.3 Changing Tides in Military Development Which Could Cause Unruly Waters

As earlier mentioned the British-German arms race that took place a century ago is often invoked as a 'how-not-to' example for the SCS, with the British-German naval rivalry considered as a perfect example of how not to repeat the same political mistakes that led to such quick outbreak of WWI. Indeed, in the recent years over and over again the ghost of the British-German arms build up and race has been invoked as a example, warning and message that the current politics, diplomacy and military build up in East-Asia is developing a similar pattern prior to the years of WWI. Japanese prime minister Abe invoked the taunted British-German example in his speech at the 44th Davos World Economic Forum, in which he warned against a military build-up by China, and its assertive policy in its various islands conflicts.[17] Mearsheimer has likewise compared the Chinese military build up to the situation a century ago and so have other various researchers (Holmes 2014; Kim 2015; Mearsheimer 2010, pp. 383, 383; Schofield 1994, pp. 39–46). Albeit similarities exit (declining and rising superpowers, naval military build-up) the situation in the SCS should only carefully be compared to the situation more than a century ago. Instead, the entire discussion and Abe's remarks has to be regarded as a message with a clear political goal rather than a framework on which future directions of the SCS conflict can be based. What, however, is similar to the German-British situation is that much like a 100 years ago the introduction of new military technology is occurring. Throughout history numerous examples (long bow, gun powder, draft, tank) have existed which led to a revolution in

[17] Speech by Japanese Prime Minister Shinzo Abe at the 44th World Economic Forum in Davos, Switzerland. The speech can be found here http://japan.kantei.go.jp/96_abe/statement/201401/22speech_e.html (accessed 14/05/2015).

military affairs, which profoundly changed military strategy and tactics and subsequently political and diplomatic calculus. In the pre-WWI arms build up it was mostly the introduction of the dreadnought battleships, the machine gun and the proper use of artillery (fragmentation shells) which changed military strategy and tactics, and as such entire battlefield. A century later dreadnoughts are a relic of the past and machine guns and artillery will not radically change the battlefield anymore. However, the digital and robotic revolution in military affairs (DRRMA) has to potential to be the machine gun or fragmentation shell of the twenty-first century and could possibly even more radically change military strategy and tactics. Much like the British, German and French generals a century ago, the full impact, consequences and implications of this new revolution in military affairs are not yet fully understood (McNeill 1982, pp. 285, 317). Robotic warfare is perceived as a mixture of half science-fiction, half actual development, with a common view that robotic wars fought by unmanned possible autonomous systems remain something of a dystopian future (Singer 2009, pp. 21–36). However, robotic wars are already taking place, with the CIA campaign in Pakistan, Somalia and Yemen as the primary example, and the use of unmanned systems by the US armed forces in Afghanistan and Iraq as other examples. The DRRMA is clearly not a dystopian future, it is happening already. Unmanned Aerial Vehicles—better known as drones—have already been operational for two decades, and have become integral parts of many militaries' capabilities, with over 70 nations having, developing, or buying UAVs (Singer 2009, pp. 40, 54–59). And the rise of the robots has not been only limited to the blue skies: Unmanned systems are operational or are under development that can operate on soil, on and below water as well as in space (Work and Brimley 2014, pp. 22–30). As such, the DRRMA will be—and quite possibly already is—a major military paradigm which remains unmatched in the history of weapons development: It not only removes the human from the direct vicinity of conflict and replaces it with an unmanned system—a radical change of the concept of conflict, in which since its earliest beginning the human has been at the direct center of conflict—but as well will impact all the spaces (air, sea, land, space and cyber) in which conflict can take place. The largest utility of this revolution is predicted to be in air and naval affairs.[18] Unmanned systems have been famously labeled as ideally suited for the dull, dangerous and dirty work and as such unmanned systems are gradually taking a larger role in naval affairs. Known examples such as the US Global Hawk UAV, the first operational tests of Unmanned Surface Vehicles (USVs) and the United States Navy's usage of Unmanned Underwater Vehicles (UUVs) have shown the exceptional utility of unmanned systems in naval affairs. They can operate longer, patrol vaster areas, are able to do more in hostile environments, and would not risk the life of military personal. Albeit the global DRRMA has been underway for a decade now, the naval component of the DRRMA in East Asia is until now still largely dominated by the U.S. military. This U.S.-held dominance seems to end soon though: China is

[18] Keck (2013). See also Clouet (2012).

developing sophisticated indigenous unmanned systems and has an operational UAV capability. Japan and South Korea are in the process of receiving their batch of Global Hawks. India is actively catching up in the robotics race and smaller military nations such as Taiwan have unmanned capabilities as well. Even the Philippines—which has a very modest defense budget—has declared a strong interest in buying UAV from the U.S. (Burgers 2013, pp. 24–29; Chase et al. 2015, pp. 1–14).[19] In their paper for the Center for New American Security Chang, FitzGerald and Jackson convincingly illustrate that the spread of the robotics revolution in East-Asia cannot be curtailed, as the current military build up in the region is too advanced, too strong and too intentional to be limited in any form (Chang et al. 2015, p. 6). This raises questions on how to view the impact of the introduction of military robotics within the framework of the SCS conflict. First, could it affect the global and regional East-Asian system of political, diplomatic and military rules and norms? In the exiting international relations system much of nations' behaviors and calculus are based on what is allowed, can be done, not done and which boundaries cannot be crossed. As such could the introduction of robotics alter the existing systems? Chang, FitzGerald and Jackson argue that *"The introduction of new technologies of any kind into geopolitical competition risks disrupting long-held patterns of interaction among states with divergent security interests, because new technologies can, in some instances, be used to create or exploit gray areas, probing a defending state's resolve without obviously violating clear proscriptions. In the absence of stable, mutual expectations about the conditions for and consequences of employing certain types of technologies (for example, nuclear weapons), uncertainty about both capability and resolve may prevail."*[20] The CIA drone campaign affirms this view: Prior to this campaign unilateral intrusions into other nations' air spaces in order to lethally strike targets was considered a no-go. Albeit the campaign has attracted a lot of controversy major military powers have throughout the years lowered their criticism and objections and the strikes are by now slowly becoming accepted. Albeit not the norm yet, it clearly illustrates that the introduction of new military technology can influence and even change the existing values and norms in the international systems. Now as it is clear that the robots will change something the question arises what exactly will they change? As the deployment and usage of military robotic systems is rather novel, no system of long established patterns, norms and values exists yet—and the author believes it will not develop any time soon. This makes it difficult to guess to which extent it will create changes. If we again look at the example of the CIA campaign we notice that existing norms and values are not only changed but have led to a much broader spectrum of what would be allowed and accepted. The CIA drone campaign has not been directly been followed by other nations and the world has not (yet) turned into a free-for-all drone strike arena, but indications are that

[19] Moss T (2013), Parameswaran (2015), Beckerman (2014).

[20] Chang et al. (2015, p. 6).

other military nations see drones strikes now as acceptable and if possible would conduct them as well, thereby possibly making drone strikes a new norm.[21]

Now the SCS will obviously not become the next hot-spot for drone strikes, as the region has few terrorists to shoot at. Nevertheless they will be deployed and given their capabilities we can expect that unmanned systems will be used for (a) patrols to counter incursions and enhance a nation's control over its territory and (b) to possibly to make incursions into contested air and sea zones. Given the absence of established patterns on how to handle intrusions by unmanned systems the question arises how nations would handle such intrusions: In cases in which manned systems would intrude a nation's air or sea space the intruded nations would warn the intruders and escort them out of the respective spaces. However, given the absence of human personal this is not possible. If we look other examples in which UAVs have been used for coercive purposes one notices a pattern of uncertainty among the intruded nations. Chang, FitzGerald and Jackson give the examples of UAV incursions by North Korea into South Korea and China into the airspace of the Japanese administrated Senkaku islands (Chang et al. 2015, p. 9). In both cases the intruded nations were highly uncertain of to how engage the UAVs and how to react to this kind of new intrusions. In the end in both cases the intruded nations allowed it and decided not engage the adversaries UAVs (Ibid 2015, p. 9). However, it seems highly unlikely that this pattern of allowing incursions would continue, as it then could develop into an established pattern and possibly even a norm. A pattern or a norm that is clearly disadvantageous to the intruded nations. As such it can be expected that the intruded nation will in the future seek to firmly oppose such action. This can consist of wide scope of actions, with varying degrees of effectiveness: possible options range from filing diplomatic complains to spoofing the signal of the unmanned systems, reprogramming it and sending it back to the existing nation to the firmest option which would be to destroy the intruding unmanned systems. Given the limited effectiveness of diplomatic complains and the high level of technical knowledge needed for spoofing the most feasible and easiest option would be the destruction of the intruding unmanned system. However, such affirmative action would surely be perceived as disproportionate or escalatory—particularly if the unmanned system would not be armed. Chang, FitzGerald and Jackson indeed rightly note that *"the use of these capabilities for coercive purposes serves as a probe of a defender's resolve in a way that*

[21] China for example considered a drone strike against a notorious drug lord which it sought to apprehend. It in the end decided to capture him, rather than sending armed UAVs. Nevertheless the fact that China considered this as viable option indicates to which extent apparently lethal UAV strikes are becoming accepted. For further information see: Perlez (2013). Furthermore, it could be argued that the air strikes of Egypt against Libya and the Saudi-Arabian air campaign against Yemen and the absence of real international objections are the result of the drone strikes campaign as well. As the drone strikes campaign were and is conducted unilaterally it thereby created possibilities for other nations to conduct their unilateral air strikes, such as in the case of the campaigns mentioned here. Drones might be absent in these campaigns, but this rather a due the absence of such systems.

shifts the burden of retaliation and escalation to its adversary."[22] Given indications of next generation unmanned systems' development, this burden would only increase as unmanned systems would be further developed in the future. Their range would improve, so will their endurance, their speed and their artificial intelligence, which all would allow for longer and more assertive operations, particularly if the USV and UUV would be used. An UAV has a limited endurance with the N = Maximum measured in days, whereas the N = Max for USV and UUV would be measured in weeks or even months. USVs and UUVs can thus loiter for months at the border of possible conflict zones, ready for operations in a very short time span.

Now if we translate this theoretical scenario in the praxis of the SCS and look at the current status of unmanned capabilities by the various nations involved and their willingness to deploy them we see that clearly the United States leads the way, but it remains to be seen if the U.S. would deploy unmanned assets in the region, as the unmanned hardware that would be deployed is essentially defenseless. With no close bases the United States would have to send the unmanned systems on long endurance missions with very few limited possibilities to divert their systems. Japan faces a similar challenge and as such it can be expected that Japan will not risk its expensive and newly acquired defenseless Global Hawks, unless air superiority would be achieved, which seems unlikely given the increasing power of the PLA Air Force. This leaves currently China and Taiwan, and in the near future the Philippines, with first generation UAVs that would be able to patrol the skies and monitor terrain. Such could be a first instance of positive development though: It would allow the various nations to better guard their borders and acquire live evidence of possible incursions, all on a near 24 hour basis. This could possibly decrease tensions, as nations will be reluctant to engage in the first round of incursions for fear being labeled as the aggressor, given the subsequent international critique. As such the author expects that sometime in the near future China, Taiwan, the Philippines and possible Vietnam will deploy unmanned systems in the SCS for defensive purposes. When analyzing if any of the local actors would deploy US for offensive coercive actions it seems likely that China, based on its current assertive policies, its significant military dominance which will only increase further, and its leading position in the DRRMA will deploy unmanned systems. A scenario in which it would deploy them in order to create diplomatic incident(s) and raise tensions would not be completely unlikely. From this position it could aim to coerce its adversaries into a treaty which, for example, would acknowledge the Chinese claims as legit and rightful. As such the use of unmanned systems could create unprecedented possibilities and options which China currently does not have, particularly if it would deploy unmanned systems in the framework of salami slicing tactics, slowly and step by step contesting the adversaries' economic zones. Such a scenario is indeed not unlikely. In his article in the National Interest Ryan Martinson argued that China in the recent years has sought to greatly enhance

[22] Chang et al. (2015, p. 9).

its maritime non-lethal non-PLAN capabilities in order to have the capabilities needed for a more assertive policy in the SCS with the aim of eventually of controlling of the sea (Martinson 2015). The deployment of unmanned systems and the scenario described above would fit perfect in this framework of building and deploying more and bigger. Likewise IISS senior fellow Christian La Miere labeled the current Chinese non-violent paramilitary approach in his quite essential book Maritime Diplomacy in the twenty-first century as *paragunboat diplomacy* and unmanned systems seem ideally suited for this purpose (Le Miere 2014). As such the author expects that sometime in the near future China might opt to deploy unmanned systems for coercive purposes in the SCS—albeit only if current existing tactics will not work.

One of the main questions if such a scenario materializes is how the United States will react to such robotic incursions. The United States, as the foremost global security actor, is to a large extent responsible for setting the global security governance framework. Increased incursions and such an arising new vacuum which actively would be created by Chinese incursions would decrease the value of the established security norms—a larger of aim of China as can be noticed by the various other initiatives such as for example the AIBB and the Shanghai Cooperation Organization, which (albeit not stated openly) seem to aim to undermine U.S.-established norms and values in East-Asia. The demise of the norms and values would not only negatively affect the U.S. security dominance, but at the same time would threaten regional security and stability. As such the question of how the United States will react against such tactics is a dual question that will focus on its perception of security in the region. A more assertive China and increasing conflicts in the SCS would, given current political tendencies among the other actors, lead to a bigger call for U.S. involvement in order to stabilize the waters of the SCS. The author therefore believes that the United States will firmly seek to oppose the use of unmanned systems for such intruding tactics as it will diminish regional stability and would decrease the value of the norms and values of the U.S. designed security framework for East-Asia, thereby in essence threatening its global security position. The question remains to which extent China—and the other actors involved—will "listen" to U.S. efforts to keep the SCS calm: Given that it is perceived as declining power it remains to be seen if they would listen at all. Furthermore, as indicated China is actively seeking to contest the US power in the region and this might be a good opportunity to illustrate the declining US power and further increase Chinese dominance in the region. This influences the likelihood that the other local actors would consider coercive unmanned tactics as an option as well: At this point only Taiwan and the Philippines currently or will have in the near future poses UAV capabilities and both nations are not likely to stir the Chinese hornets' nest and increase the possibility of conflict, given that China has the clear political, economical and military advantage. Nevertheless given that the assertive actors—read actors who will deploy unmanned systems first—will have the initial benefit the likelihood these nations will seek to deploy unmanned systems for offensive purposes should not completely be ruled out. If such a development occurs the possibility is present that an unmanned arms race could be started. This should not

mean that unmanned systems would be actively used and that the SCS would become a sea of robotic clashes. Rather the author believes that—foremost give the delicate balance currently existing and the lacking desire by all actors to escalate the situation—all actors will acquire unmanned capabilities, but foremost for the purpose to have a deterrence capability. Given the lack of adequate defense mechanism against intrusions developing something of a second strike capability (the capability to intrude the opposing nation air or sea space with one's own unmanned systems) would become crucial, and as such to have rather than to deploy would become the standard. What however remains highly important in such a scenario and which all actors involved should seek to limit or possibly even avoid is the risk of miscalculation. As described earlier the ever-existing risk that comes with the introduction of new military technological systems and absence of established pattern and norms on how to use them is clearly existent. In this case it would be easy to see how an intrusion and subsequent destruction of unmanned system(s) would lead to a vicious negative spiral in which actors—for political, nationalistic, home discourse, military and other reasons—would not back down, thereby essentially creating the possibility that the situation could develop into a limited war. Albeit this seems unlikely at this given point the author wants to remind the reader that various cases throughout history exist in which a minor incident spiraled very easily out of control—particularly if the political and diplomatic situation is tense as is the case in the SCS conflict. As written earlier the situation in the SCS resembles to some extent the British-German naval rivalry a century ago and the actors involved should seek to establish a framework for the use of unmanned systems in the SCS in order to prevent that the SCS nations suffer from the same devastating results as Germany and Britain did.

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