Six Perspectives on Naval Strategy

Karlskrona and Stockholm, 21-23 October 2008

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Sammanfattning

Rapporten är en sammanställning av anförandena vid den marinstrategiska konferens som hölls den 22 oktober 2008 i Karlskrona och de möten och seminarier som hölls i Stockholm följande dag. De här publicerade konferensbidragen har utvecklats och skrivits om i ljuset av diskussionen och kommentarerna av talare samt åhörare.

Konferensen fokuserade på de globala marina utvecklingarna, utsikterna till europeiskt marint samarbete, de strukturella och konceptuella frågor den svenska marinen står inför, hur den brittiska marinen hanterar sina strukturella problem och frågeställningar samt en analys av det tilltagande sjöröveriet runt Afrikas horn och hur problemet kan hanteras.

Konferensen arrangerades av Totalförsvarets Forskningsinstitut (FOI), på uppdrag av marinen genom sjöstridsskolan inom ramen för den marina huvudstudien 2008.

Nyckelord: Marin strategi, Marin struktur, Marinen, Royal Navy, Europeiska Unionen, Marint internationellt samarbete, Afrikas Horn, Pirater.

Summary

This report is the result of a conference on naval strategy and maritime issues held in Karlskrona, Sweden on the 22nd of October 2008 and at a seminar in Stockholm the following day. The conference papers were subsequently updated and developed in order to take into account the comments and debate that followed during the course of the conference.

The conference addressed the global naval developments, the prospects for naval co-operation in Europe, conceptual and structural issues for the Royal Swedish Navy from two different perspectives, how the Royal Navy has tackled structural challenges and lastly an analysis of the emerging problem of piracy on the Horn of Africa and some suggestions on how to tackle it.

The conference was arranged by the Swedish Defence Research Agency on behalf of the Royal Swedish Navy.

Keywords: Naval Strategy, Naval Structures, Piracy, Royal Navy, Royal Swedish Navy, Stealth capabilities, European Union, Naval co-operation, Horn of Africa.

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Cover: Naval expedition to confront African corsairs, 1390. A joint French and English expedition setting out at request of the Genoese, to battle with African corsairs who were a threat to shipping.

Introduction

The development in the maritime arena can appear paradoxical – on the one hand, the globalised economy is highly dependent on the sea for trade and transport but on the other, the maritime developments receive relatively little attention in the international debate. It seems that "sea-blindness", a phenomenon where planners, strategists and politicians tend to overlook the increasingly important role of the sea in a globalised world, has struck.

International co-operation, interoperability, increasing pirate activity, technological development and regional naval (re-)armament are but a few of the many challenges facing those who think about maritime security and plan future naval force structures. What role can naval assets play in today's world and how should navies be structured? What are the prospects for international naval and maritime co-operation? Some old threats to Good Order at Sea are back on the agenda – how can they be tackled? What are the structural and operational challenges facing the Royal Swedish Navy today?

To discuss these issues from different perspectives, the Swedish Defence Research Agency (FOI), convened a group of distinguished strategic and naval experts for a one-day conference in Karlskrona on the 22nd of October 2008. The conference was held on behalf of the Royal Swedish Navy, and was followed the next day by a seminar in Stockholm, with analysts at FOI as the main audience. In addition, meetings with Swedish officials and parliamentarians took place.

The result of the conference, the seminar and meetings led to this publication. The six presentations made at the conference have been developed from the discussions and comments made by the participants during these two days. It is our hope that this contribution to the naval strategic debate can provide some input for policymakers both in Sweden and internationally.

Stockholm in December 2008,

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He researches a range of subjects from defence policy, strategic theory and doctrine, to defence management, future concepts and the application of technology to military capability. He also oversees conferences, meetings and lectures in these areas. He retired from the Royal Navy in October 1995 after a career as a Seaman Officer principally working in anti-submarine warfare and in the latter part of his career, maritime strategy and doctrine, future concepts, defence policy and international issues.

He was a lecturer in strategy and operational art at the US Naval War College, was a Defence Fellow at the Centre for Defence Studies, King's College, London and has held a NATO Fellowship working on coalition interoperability. His degrees are in Philosophy and Psychology (Brasenose College, Oxford). He lectures regularly at University College, London, Southampton University, the University of St. Andrews, the University of Greenwich and the Joint Services Command and Staff College. His written work includes editorship and principal authorship of the *First Edition of the Royal Navy's BR1806: the Fundamentals of British Maritime Doctrine* and numerous articles, papers and chapters in journals and collections.

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Robert Dalsjö is a Senior Analyst specializing in politico-military affairs at the Division of Defence Analysis of the Swedish Defence Research Agency (FOI). He holds a Doctorate from King's College, London and a Masters from Georgetown University. His doctorate thesis on Sweden's Cold-War military planning was published as "Life-Line Lost. The Rise and Fall of 'Neutral' Sweden's Secret Reserve Option of Wartime Help Form the West", in 2006 (Santérus Academic Press, 2006). He has worked and published on issues such as peace-support operations, cold war history, NATO enlargement, Baltic security, conventional arms control, and naval issues. He is currently on secondment as analytic support to the Swedish Ministry of Defence. Dr. Dalsjö is a member of the IISS and the Royal Swedish Academy of War Sciences.

Dr. Norman Friedman

Dr. Friedman has been concerned throughout his career with the way in which policy and technology intersect, in fields as disparate as national missile defence, nuclear strategy, and mobilization policy. An internationally known strategist, he spent more than a decade at a major US think-tank, and another decade as consultant to the secretary of the navy. He is the author of more than 30 books on naval strategy and technology, including an award-winning account of the US Cold War Strategy. His design histories of US Navy carriers, Battleships, submarines and small combatants have come to be considered standard reference works. He has also produced five editions of an encyclopedia of world naval weapon systems, including command and control systems. He contributes a monthly column on world naval developments to the Naval Institute's *Proceeding* magazine and writes articles for journals worldwide. Dr. Friedman holds a PhD. from Columbia University, New York. He lectures widely on defence issues in forums such as the National Defence University, the Naval War College and the Royal United Services Institute.

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Undergraduate: Sea Power, Technology Warfare and Strategy

Postgraduate: British Defence Policy since 1945, Maritime Strategy and Security

Principal Publications Include:

The Royal Navy Since 1815, A New Short History (Palgrave Macmillan 2005)

The Price of Disobedience, The Battle of the River Plate Reconsidered (Naval Institute Press, 2001)

Fleet to Fleet Encounters; Tsushima, Jutland and Philippine Sea (Naval Institute Press, 1993)

The Future of Sea Power (Naval Institute Press, 1990)

Vanguard to Trident: *British Naval Policy Since 1945* (Naval Institute Press, 1987)

He has also edited a new edition of Sir Julian Corbett's *Some Principles of Maritime Strategy* (Naval Institute Press, 1988) and was a co-author of the original edition of the official formulation of the Royal Navy's maritime doctrine, *BR 1806*. Dr Grove is one of the leading naval experts in the world and appears frequently on television and radio as an expert on naval history and contemporary security matters.

Mr. Karl Sörenson

Mr. Sörenson is an Analyst at the Swedish Defence Research Agency, FOI, Division of Defence Analysis, in Stockholm, Sweden. At the agency Mr. Sörenson monitors the security political and military development in Africa with a special focus on the francophone regions. In connection to his main area of study Mr. Sörenson follows the UN-, EU- and AU-peace support operations and counterterrorism in Africa.

Karl Sörenson holds a Master in Philosophy from Sorbonne University in Paris, France, and a Master in Computer Sciences at the Royal Institute of Technology, Stockholm, Sweden. While in France Mr. Sörenson also worked for the Swedish Cultural Attaché with Franco-Swedish cultural relations.

Dr. Lee Willett, Head of Maritime Studies Programme RUSI.

Dr Lee Willett is Head of the Maritime Studies Programme, in the Military Sciences Department at the Royal United Services Institute for Defence and Security Studies. Previously, he was responsible for the Military Capabilities Programme and the research and conference components therein, before a recent Departmental re-organization led to the creation of several new programmes, including the Maritime Studies Programme.

The Maritime Studies Programme is a research-led programme which provides analysis, conducts research, contributes to RUSI's publications, and convenes meetings, seminars and conferences on issues relating to the maritime operational environment and maritime security, including development, concepts and doctrine, military capabilities, personnel, moral and legal issues (including reserves), command and force structures and organization, and logistics.

Under the Maritime Studies Programme, Dr Willett is undertaking the following tasks at present:

- Research on maritime strategy, operations and equipment capability issues, especially in relation to the Royal Navy. In recent work on the Royal Navy, Dr Willett has been studying the future of the Submarine Service, the role of the Tomahawk Land Attack Missile (TLAM), and the challenges in generating concepts and capabilities to support Maritime Security Operations (MSO).
- Analysis of key acquisition issues for the maritime environment, and in the UK in particular. Here, he is focused on defence acquisition and maritime industrial strategy issues, and the challenges for delivering key future Royal Navy programmes such as the Future Carrier, Future Surface Combatant and Astute-class submarine
- Assessment of the issues surrounding the future of nuclear deterrence and, for the UK in particular, the debate surrounding the replacement of its Trident strategic deterrent.

Dr Willett also is a member of the publications Editorial Board for the Royal Australian Navy's Sea Power Centre-Australia (SPC-A).

Prior to joining RUSI, Dr Willett was Leverhulme Research Fellow at the Centre for Security Studies at the University of Hull and was seconded to the Naval Staff Directorate in the Ministry of Defence as a Research Associate. He holds a BA in International Relations, an MA in War Studies and a doctorate on Tomahawk's role in US-Soviet strategic arms control.

Some Global Naval Trends

Norman Friedman[1]

From the point of view of the technological environment, the most important trend is probably one from the civilian world: Moore's Law, the notion that computing power doubles every eighteen months. For example, if Moore's Law is applied to sensor processing, it attacks the basis of stealth. It takes a bit more than three Moore's Law cycles to improve processing by 10 decibels (a factor of ten). Moore's Law also makes it much easier for different platforms to exchange data, and cooperative processing also acts against stealth. For example, it appears that stealth is never perfect; there is always an aspect from which any object is more observable. Platforms are stealthy because no sensor gets many opportunities to observe them from that favorable aspect. Linking makes it possible for a group of sensors to create a net picture of where the stealthy object is going, and that in turn makes it possible to intercept.

There are, to be sure, countermeasures to a linked anti-stealth system. A randomly maneuvering stealthy airplane would have an unpredictable track, so its past track history would not suffice to intercept it. That should be no surprise: for every measure there is a countermeasure, and so on forever. The point, however, is that computing advances should ultimately reduce the value of the stealth we now see around us. From a ship point of view, eventually we will have to reckon with more classic forms of passive or active protection. After all, a ship maneuvering randomly at high speed (to maintain her average rate of advance) will create a tell-tale wake and thus surrender her basic stealth. That will not apply nearly so much to an airplane or a missile.

All of this is quite aside from the existence, now, of anti-stealth sensors. The most prominent current one is HF surface wave radar, which can probably overcome most kinds of stealthy shapes. Such radars do not locate their targets precisely enough for missile targeting, but they do show that a ship is within a box several miles on a side, and that certainty will change the way in which the ambiguous data from, say, airborne radars will be interpreted. That is quite aside from the likely improvements in radar signal processing due to Moore's Law – which can be implemented without changing visible items such as antennas.

[1] The views stated in this paper are the author's own, and should not necessarily be attributed to the U.S. Navy or to any other organization with which he has been associated.

A second point worth keeping in mind is that the civilian world, not the military world, is currently driving Moore's Law. Super-computers are no longer – and for some time have not been – the special province of a few wealthy military forces. Whether smaller countries invest in such technology is, of course, a matter of other factors, such as their sophistication. However, over the life of a ship or even an airplane, the effect of Moore's Law must be an important issue. That leads to another question, which is whether Moore's Law is forever. All technologies are subject to S-shaped development curves. For part of their lives they look exponential, like Moore's Law, but ultimately all other curves have levelled out. What could have that effect on Moore's Law? If computer development is currently commercially driven, presumably it can be slowed by evaporation of the civilian computer market. A visit to a computer shop reveals that costs are collapsing, which really means a slowdown in demand for new computers. It may be worth remembering that Moore's Law was originally formulated as a rule about the unit cost of computing, which would halve every eighteen months. A collapse in unit cost would favor cooperative computing and sensing, which might have the effects envisaged against stealthy platforms.

A second important trend is the rise in manpower cost, which has long shaped Western navies. Manpower is why steam engines disappeared in favor of gas turbines, which are less efficient but require far fewer operators. Manpower may also have doomed heavy guns, a particularly important point if naval operations are becoming more expeditionary. In an expeditionary context, manpower probably makes it difficult or impossible for any navy to field the large numbers of small vessels so important in past operations.

Limited manpower also complicates sustained operations, because the number on watch at any one time is limited. That applies to combat systems, which always have to be on alert – because in a littoral area surprise attacks are likely to be the rule – and to the main shipboard systems, such as her machinery. In both cases, aggressive automation seems to be the only way to make it possible for a ship with a severely limited complement to operate for a long time on station in a forward area. However, attempts to limit crewing can be taken too far. The usual argument against minimum crewing is that a ship needs extra crewmen to carry out damage control, particularly if a hit kills some of the crew. Another argument is that below a point it becomes difficult or impossible to defend a valuable warship against irregular threats such as pirates – it would be far more embarrassing to have pirates or, worse, terrorists seize a frigate or a missile cruiser than a supertanker. The U.S. Navy became interested in very low crewing in the 1990s when the arsenal ship was conceived, and it seemed at that time that larger numbers (e.g., on the ship's bridge) were valuable insurance against accidents which would be unacceptable in a warship (but which do occur on minimally-crewed

merchant ships). The current U.S. *Zumwalt* program began as an attempt to cut life-cycle cost by cutting manpower, but apparently the attempt was both extremely expensive and not entirely successful. A similar attempt was made in the modular LCS, but there again there is a question of whether it is really possible to combine a permanent crew with manpower modules taken aboard with physical modules. Yet another consideration is that a minimally-crewed ship would have a much higher percentage of officers and high-rated crewmen, who would on average cost a good deal more than current crews.

A further important point is a tremendous but largely unheralded change in the way that navies fight. In the 1990s U.S. Vice Admiral Arthur K. Cebrowski began urging the virtues of what he called network-centric warfare. At the time the U.S. Navy used a command system, the Naval Tactical Data System (NTDS), which linked many of its ships. Cebrowski was furious when his concept was compared with NTDS; he refused to imagine that network-centric warfare was "NTDS on steroids." That was, however, exactly what it was. NTDS could also be compared to modern air defense systems which create an electronic air defense "environment," a shared tactical picture on the basis of which decisions can be made. The name network-centric was most unfortunate; the idea should probably be called picture-centric warfare. It has been evolving, often without a special name, for about a century.

That virtually all warships now have combat system or direction computers is well known. That formatted links are needed to coordinate ships working together is not so well understood – many navies bought the computers without the links – but they are essential in group operations. Thus it is difficult to imagine NATO naval operations in the 1980s without Link 11. The new unformatted Internet-style communications media somewhat obscure such technicalities, but they do not obscure the need for a shared picture of what is happening in the battle or operational area. Compared to what a formation of ships develops as a shared picture, the larger use of a picture created cooperatively between a naval headquarters, using fixed or national sensors, and the ships at sea is even less well understood. However, it is the key to the next generation of navies.

The Royal Swedish Navy developed its coastal style of operation on exactly this basis, with a national coastal information environment (STRIMA) parallel to the national air defense environment (STRIL). In such designations, the meaning of environment is that the deployed shooters are in effect embedded in an information environment which indicates their targets. The architecture may involve providing each unit with a tactical picture, or the picture may be used mainly by a central controller (as in air defense). Issues such as IFF (target identification) are handled through the picture rather than, mainly, through the sensors of the

shooter. This solution, incidentally, helps simplify the identification problem, although there are many examples in which it was less than successful.

Swedish missile craft can fire at targets beyond their own horizons because they are party to a beyond-horizon picture of the waters surrounding Sweden. The existence of a national sensor net in turn offers the Swedish navy and coast defenses considerable and vital advantages. That the sensor net and the national command data systems are little appreciated can be traced to a combination of secrecy and the fact that those who describe military forces tend not to care much about command and control. It often seems that these systems are classified 'boring' rather than 'secret.' Despite such obscurity, it can be argued that the national systems and the systems on board the ships define the extent to which the potential of the ship's weapons – the visible part of her character – can be realized in practice. The implication is that ships designed to work in an information environment carefully erected in home waters will have very different – and lesser – capabilities if they have to operate in distant waters, outside such an environment.

It can be argued that the appropriate insurance against such reduced capability, which amounts in part to vulnerability to surprise attack, is the kind of passive survivability which has largely been abandoned in modern warships (the U.S. *Arleigh Burke* class is a notable exception). Passive survivability generally entails size but not necessarily much additional cost. It probably does entail duplication and dispersal of key shipboard functions. In this sense electric drive can be a major contributor to survivability. So can improved data processing. For example, some years ago the U.S. Navy experimented with a 'virtual' Combat Information Center (CIC), all the operators of which wore virtual reality helmets. Each had the illusion of sitting in a conventional CIC, but physically all were separated, so there was no central CIC the loss of which would cripple the ship. This experiment was apparently less than successful, but it points the way towards a possible future.

Moreover, without much passive survivability, we are forced into the somewhat ridiculous position that the weapon system on any serious warship has to be able to shoot down every missile fired at that ship – the implication is that any hit will be fatal. Observation of actual missile hits against substantial warships suggests the opposite. Since the Israeli *Eilat* was lost in 1967, the only other warship to be sunk by missile fire was a small Iranian frigate, and she succumbed to a remarkable number of hits. When the U.S. Navy attacked Libya in 1981, it attacked a Libyan 'Nanuchka' class missile corvette with a Harpoon missile. Photographs showed the ship burning spectacularly – but she survived to be towed into harbor. USS *Cole* survived a 2000 lb shaped charge amidships, far more powerful

than any missile warhead in the world. If ships are much likelier to survive than to sink, surely we can design them so that they can take a few hits and keep fighting. Accepting that a few hits can be survived would cap requirements for either extreme stealth or extreme ability to deal with saturation, and that in turn would bring down the cost of high-end warships, perhaps dramatically. This is not a call to abandon active defense, but rather to consider it on a more realistic basis. Defenses *can* be saturated; limited missile loads can be exhausted by decoying. What then? How much active defense is enough? Incidentally, modern automated damage control (which usually means flooding and fire-fighting) systems can substantially improve a ship's chances of survival, even if she suffers serious casualties, as in the case of USS *Stark* in 1987. Finally, remember that current expeditionary operations often involve ambiguous circumstances. A commander who believes that one hit will finish his ship will be much more prone to make expensive mistakes than one who thinks he can, in a pinch, accept a hit and fight back. Is the unfortunate *Vincennes* incident of 1988 a case in point?

Now combine the sensor net with the implications of global precise navigation, as represented right now by GPS, and in the future by more systems. If there are enough sensors, if the sensing is pervasive enough, the shared tactical picture can be precise enough that it is never necessary to search for a target. Virtually all weapons can be guided navigationally (they may need very simple terminal sensors). To the extent that stealth matters, it matters mainly in relation to the massed wide-area sensor net. The more sensors, the better the chance that combining their product will reveal a stealthy platform, because most forms of stealth fail at some aspects. Remember that the coalition forces destroyed a linked collection of Iraqi radars in the late 1990s precisely because their linkage might render aircraft stealth ineffective. Given a sensor net, virtually all attacks based on the picture it creates will be surprises, because no potential target will be aware that it has been singled out for attention. Not all of these effects demand the sort of pervasive precise sensing that is envisaged here, but looking at the ultimate result illuminates what can be done. Again, it seems that stealth will have a very finite lifetime, and that passive survivability will become increasingly valuable.

One might ask why passive survivability has evoked so little interest. One reason is that, until fairly recently, as ships became more dependent on electronics it seemed to follow that they could easily be put out of action: surely electronic equipment epitomized delicacy. But we know from everyday experience that modern electronics is often quite tough. If that is true of the powerful computers and chips we use at home, why should it be much less true at sea? The other, subtler, reason was that many navies were conceived during the Cold War, when it seemed that the threat of nuclear war would end any conventional conflict

within a few weeks. Surely any ship which could not be brought back into action within a week or so would be as good as sunk? But that made little sense then (sustained conflict was certainly possible), and it makes no sense at all now. It seems to be time to return to a more classical attitude, in which ships were designed to keep fighting until the water closed over them. Stealth is not a substitute, because it is so unlikely to survive realities like Moore's Law and networked sensors.

The discussion of netted systems may sound fantastic, but existing systems suggest what can be done. During the Cold War, for example, the U.S. Navy and some allies operated a global Sound Surveillance System to detect submarines at long ranges. The system had considerable gaps (it could not, for example, work in the Baltic), and the daily probability of submarine detection was sometimes said to be fairly low. However, perhaps the most important virtue of the system was that no submarine commander could ever know whether this passive system was tracking him, which meant whether he would suddenly hear some sonobuoys and then a lightweight torpedo in the water. One effect of the mere presence of the wide-area system was to cause submarine commanders to concentrate on self-preservation rather than on attacking. It was one thing, as many commanders thought, to risk their lives briefly during encounters with convoys, and quite another to take constant evasive measures, when no threat was in sight.

Because it involves active sensors, a national air defense system does not have quite the same effect, but the presence of the sensors does force an attacking air arm to dissipate its effort somewhat merely to be able to operate, and to face attacks far from its objectives. Of course, not all such systems are properly designed. In 1991 coalition forces were able to disrupt the entire Iraqi air defense system by knocking out its headquarters. They could not imagine the reality, that Saddam Hussein had preferred to buy weapons rather than back-up command and control, and it took at least a week to realize that the system would never come back. We are likely to be a good deal wiser – and our enemies will probably put together tougher defense environments, too. Future war may be a duel between such netted environments, each side trying either to hide or to live with enemy attacks. Hiding seems less and less likely to work.

The meaning of seapower is constant, but world political developments change the way in which countries apply it. Various descriptions of naval strategy boil down to a few facts, the most important being that it is far easier to transport large weights by sea than over land. From a military point of view, that is why the U.S. Navy can move a substantial air base across the world at 30 knots. From a civilian point of view, it is why the volume of trade by sea keeps growing. The ultimate effect of such growth may be that nearly all countries specialize in what

they produce, hence that the world becomes increasingly interdependent. Such interdependence was Mahan's rationale for the primacy of seapower when he wrote about the turn of the last century. His argument seems, if anything, stronger right now.

Because it is easy to concentrate and transport great weights by sea, naval forces can sustain themselves offshore for considerable periods. They do not need permission, hence can influence events ashore without excessive political cost, and also without having either to attack or to leave, as is the case with long-range land-based aircraft. This virtue is exceptionally valuable in a world which is more often in a state of uneasy peace than in one of outright hostilities. Of course, the other side to this virtue is that ships offshore do not represent the same sort of commitment as soldiers on the ground (nor do they aggravate a local population in the same way).

Again, because transport by sea is so easy, it is impossible to control by legal means; anyone can obtain a seagoing boat, and anyone can launch it from a coastline. By way of contrast, if enough governments agree, international air transportation is entirely controllable. One consequence is that sea transportation becomes particularly valuable to illegals, such as terrorists and even immigrants. To the extent that limited naval forces can exercise control at all, they depend on wide-area sensing – on exactly the new tactical technology outlined above. For example, the U.S. Coast Guard's Project Deepwater, which is often described in terms of the new cutters and aircraft being bought, is really a wide-area sensing command and control backbone to which these new platforms are adapted. From that point of view, incidentally, it is a far happier story than the one typically reported. For that matter, the international force blocking free transit across the Arabian Sea has had important effects on the war against Al Qaeda and its allies. This kind of sea control is also relevant to international efforts like the ones to restrict the spread of weapons of mass destruction.

Where are we now? In the aftermath of the Cold War, at least for the moment the focus of Western navies is expeditionary. The current problem is deep unrest, mainly in the Middle East and in South Asia. The test for navies has been whether they can deploy to operate off such shores on a sustained basis. For at least some navies, the test may ultimately be whether they can conduct combat operations off such shores – in what the U.S. Navy calls littorals – far from home. It seems fair to divide the question in half. One is the requirements of sustaining naval operations far from home. The other is any special considerations applicable to littorals. The Royal Swedish Navy has had long experience of littoral operations from the other side, exploiting littoral conditions to its own defensive advantage.

Sustained operations involve, first of all, endurance. That means not only the paper endurance of a ship, which depends on her fuel load and her stores capacity, but also the endurance of her crew. For example, after the Royal Danish Navy participated in the 1991 Gulf War, it concluded that its ships were too small. The crews grew stale too quickly. Hence the much larger ships the Danes are now placing in service, which they associate with the new world of expeditionary operations.

No matter how large the ship, she cannot be expected to remain on station forever without replenishment. U.S. warships often seem somewhat empty because so much space has been allotted for paths from replenishment stations, both alongside and vertical, to places where stores and other things can be struck below for stowage. It seems likely that this kind of requirement will conflict with the desire for stealth, since it makes for broad flat decks rather than for free shaping of a ship's topsides. The replenishment issue automatically limits the endurance of submarines, unless special measures are taken to meet their needs. If the reasoning above is correct, excessive sacrifices for stealth are mistakes, because electronic evolution will defeat any imposed level of stealthiness.

Sustainment is also a fleet issue, because underway replenishment generally requires specially-equipped ships. The existence of sufficient numbers of such ships probably distinguishes a navy with global reach from one with large ships but without much sustained reach. That is, sustainment entails investment without apparent benefit in terms of combat power. The U.S. Navy of the 1930s is a case in point. U.S. planners knew that they needed vast numbers of sustainment ships to conduct the trans-Pacific operations they envisaged. Congress, however, was uninterested in such auxiliaries, at least until the late 1930s. U.S. World War II operations were really possible only because the separate effort to revive the U.S. merchant fleet produced enough hulls which could be converted into sustainment ships in wartime, when money was freer and professional judgement more determinative.

One point about sustainment is often neglected. It is nearly impossible to transfer missiles to surface combatants at sea. The U.S. Navy probably tried the longest, and ultimately it abandoned the effort. That decision is obvious in the way that U.S. cruise missile ships operate. They fire off their weapons and then leave the combat area, to be replaced by other ships. They rearm at piers or, in extreme cases, alongside tenders in very calm water. These ships, moreover, carry many more weapons per ship than those of other navies. Those looking at modern weapons generally stress the performance, including the precision, of the individual weapon – but sustained combat entails the use of many hundreds or even

thousands of weapons. Somehow they must be brought into a combat zone and somehow they must get aboard the ships firing them.

The important exception to this problem is a carrier. Replenishment is practical because weapons are brought aboard horizontally, and because the same elevators which bring weapons up to the flight deck can bring them down to the magazines. The carrier's aircraft act, in effect, as reusable first stages of missiles. In a sustained operation, the carrier acts as the last trans-shipment point between wherever the weapons are made and the targets. To the extent that a frigate or corvette operates a helicopter capable of firing weapons, she shares a bit of this virtue, but only a very little bit, because she has only a small helicopter weapon magazine.

Another less important exception is of course gun ammunition, which is rugged enough and small enough for relatively easy replenishment at sea. If the promise of guided shells is realized (and there are real questions about that), then to a limited extent surface combatants can gain the ability to sustain combat offshore.

How have things come to such a pass? One reason is that, throughout the Cold War, there was a widespread tacit belief that shipboard missiles were mainly intended for anti-ship use. There is not too much difference between a classical destroyer with eight torpedo tubes and a missile-armed frigate with eight or even sixteen anti-ship missiles; in fact the missile ship can deal with more targets. The Soviets acted as though a few land attack missiles would suffice, because their tacit assumption was that they would use nuclear warheads. The U.S. Navy was alone is providing large numbers of potential land attack launchers per warship, but that was mainly because the same launchers were needed to provide anti-aircraft missiles to defeat the expected saturation attacks. It was a stroke of genius which demanded that each anti-aircraft missile cell accommodate a land-attack Tomahawk. Moreover, the U.S. Navy gained enormously by having large numbers of potential Tomahawk shooters, because they helped confuse the Soviet ocean surveillance system (by multiplying the number of ships it had to track).

None of these considerations is valid right now. In an expeditionary operation, most of the targets are ashore. It would be ludicrous to imagine that hitting (say) eight such targets with warheads each weighing less than a thousand pounds would achieve decisive results, or successfully support troops ashore against real opposition. We are back in a pre-nuclear era, in which numbers count. Aircraft carriers straddle both worlds, hence are still quite useful. Surface ships do not. They have many valuable uses, but operations against forces or installations ashore probably are not on that list.

Several navies, well aware of the newly expeditionary character of the naval world, have invested in sophisticated new amphibious ships. No one probably imagines landing in the face of intense opposition, as at Normandy in 1944, or at Okinawa in 1945. Instead, the effort has been to make the means of landing so flexible that the approaching force can evade enemy defenses. Mine reconnaissance is, incidentally, consonant with this idea: identify and locate likely minefields, and go somewhere else. That is not always possible, however. Some potential objectives are just too small. For example, in 1991 it was obvious to the Iraqis that any Coalition landing, if it came, would have to come over a ten-mile stretch of beach. They managed to fortify that area quite thoroughly. The joke was on them: the threat of an amphibious operation forced a mal-deployment of Iraqi troops. Future operations may be considerably more difficult.

All of this begs a question. If the big new amphibious ships do not in themselves buy enough capability, the governments that bought those ships were in effect deciding that they would be valuable only in a coalition context. That might have been quite sensible. A government offering some capability *without* which a coalition could not function would be buying important influence, perhaps even a veto over some kinds of operations. It is not, however, entirely clear that those involved understood what they were doing. Naval capability is fleet capability, a joint proposition. If the fleet is a coalition force, how cohesive is it likely to be? The allied experience against Serbia was not entirely a happy one, because it was impossible truly to unify command.

Now for the second question. Perhaps the most important characteristic of a littoral area is that the lines of sensing (sight, sound, etc) are dramatically shortened compared to those in the open sea. Many naval systems work because threats can be detected at long ranges, giving the system time to take required measures. If lines of sensing are short, the fleet's sensors must be multiplied enormously. Otherwise it will be easy for an enemy to slip through – as the Japanese learned with Kamikazes in 1944-45.

Too, a littoral area means short distances for the enemy, who can use smaller cheaper craft which can be produced in large numbers – and which may be difficult or impossible to distinguish from non-military craft. That is the spectre raised by those warning of attacks by swarming small craft in the Gulf.

If you go back to World War II, you find the solution: the fleet brings vast numbers of small combatants with it. The main antidote to Japanese suicide boats, for example, was hundreds of gunboats converted from small amphibious ships. Short lines of sensing made for a serious ground mine threat, and the only solution was massed sweepers (later, massed hunters). In 1945 the U.S. Navy deployed something like five thousand commissioned units, including about two

thousand amphibious craft. No one can imagine numbers like that any more. Even if they were imaginable, how would the small craft (large ones could not be provided in the requisite numbers) get to the scene of action, and how could they be supported? Small usually means slow, at least on a sustained basis, but modern crises rise quickly. The solution off Okinawa was simple: the U.S. Navy was already emplaced nearby.

None of this is likely to work any more. Is there some way to adapt the lessons of the past? Technology now offers a way out: unattended sensors, reporting back to data fusion centers on board the fleet to help create a merged tactical picture. That is exactly what the U.S. Navy is trying to do with its Littoral Combat Ship. The LCS is in effect a carrier of unmanned vehicles, most of which will distribute unattended sensors. The LCS in turn will process the data from the sensors it distributes.

The result will be a current tactical picture – a map of what is happening in the littoral area, created by enough separate sensors that they can overcome the effect of littoral geography. Will it work as advertised? No one can say, but there does not seem to be any real alternative.

The map, moreover, is what the fleet needs if it is to use precision weapons. One might add that geographically-guided (precision) weapons can overcome the usual limitations of individual seekers, because it is the mass of sensors *as a whole* which in effect guides them. Unmanned vehicles can, it is hoped, reverse the trend towards fewer and fewer ships and hence towards less and less area coverage by an offshore fleet. Moreover, their presence greatly complicates the problem of the defender ashore. It is one thing to swarm small boats against a single massive target, like USS *Cole* in Aden harbor. It is another to deal with a cloud of unmanned small boats operating around and near that ship. The swarm boats are individually quite vulnerable. Their main protection is their anonymity, before they strike. Any effort on their part to deal with the unmanned boats will reveal their intent, and probably spoil their attack.

Unmanned platforms offer a wider scope. If, for example, nearly all targets are indicated by a mass of independent sensors, and hence located precisely, then what is the role of the attack pilot? An unmanned airplane can be directed to the same location. Moreover, it is not subject to pilot fatigue. Because it does not have to fly frequently to maintain pilot proficiency, it may be far less expensive to operate than a manned airplane. Yet it still offers the same important advantages that the aircraft carrier provides.

In a more general sense, it is probably time to rethink the role of human crews. It is obvious that human initiative and creativity are key. However, it is also obvi-

ous that many of the things that crews do have nothing to do with either. As the cost of people rises, and as the political cost of losing people also rises, this issue would seem to become more urgent – particularly if navies more and more operate far from home.

European Naval Co-operation and Interoperability – Prospects and Problems

Michael Codner

Features of Naval Co-operation

It is considerably easier for navies to co-operate for operations and exercises than land and air forces. During the Cold War European and North American naval units integrated at unit level to form NATO's Atlantic Striking Fleet and Striking Force South in the Mediterranean. They exercised regularly together in this capacity. Equivalent land forces could typically only integrate at the divisional and corps levels[2]. NATO's Standing Naval Forces Atlantic and Mediterranean conducted suasion operations and exercises on a near continuous basis.

One product of this co-operation was a library of tactics, techniques and procedures (TTPs) and a culture that has been exemplary for the other operational environments. Furthermore these formal aspects of behavioural interoperability were exported beyond NATO to form the basis for TTPs for multinational operations in the Pacific in the Combined Exercise Agreement (COMBEXAG) developed by United States, Canadian, British, Australian and New Zealand navies and AUSCANZUKUS communications arrangements. The formal Five Power Defence Arrangements exercise procedures between the UK, Australia, New Zealand, Malaysia and Singapore begun in the 1980s drew heavily on the NATO experience. Concepts such as formal multinational 'Rules of Engagement' structures had their beginnings at sea.

The bible for international naval co-operation was Allied Tactical Publication 1 (ATP1) with its companion signal volume. This TTP book was widely available to navies outside NATO particularly in its earlier editions. Indeed even Soviet vessels would indicate their access to it jokingly in signal exchanges during the many routine surveillance altercations.

[2] There were exceptions such as the Allied Command Europe Mobile Force but its role was essentially symbolic rather than for combat or other military purposes.

One reason for these high levels of tactical and procedural co-operation was that the ungoverned ocean and the deployability of naval vessels provided opportunities during the Cold War that did not exist in the very static force structures on land. The sea also provided a major theatre for surveillance and military diplomatic action such as freedom of navigation (FON) operations.

A second reason is in the nature of warships. Each unit is a highly integrated man-machine system displaying a relatively simple and predictable set of behaviours. It has been said that all that is needed for naval interoperability for a whole range of benign and constabulary missions is a geographic rendezvous and a common radio frequency – a gross over-simplification of course but that fact that navies all around the world routinely take part in off-chance passage exercises (PASSEX) and manoeuvres often initiated between unit commanding officers demonstrates the point.

There are two other reasons for this facility. One is that constabulary, benign and diplomatic activity is part of what navies do as a matter of course. In the maritime domain these roles are not perceived as a diversion from proper business as is so often the perception in the land environment where there are often also national legal and constitutional constraints on the use of ground forces. The other is the notion of the brotherhood of the sea. Mariners routinely operate in a dangerous natural environment and share this common foe. Coping with the environment whether to exchange situational information, avoid collisions at sea, for search and rescue or to respond to other natural disasters forces militaries to work together and with merchant shipping and coastguards as a matter of course.

The Need to Co-operate

With the exception of national defence and the security of coastal waters there are very few tasks to which medium and small navies contribute which can be conducted on a purely national basis. Indeed even national defence is a collective mission for NATO members. The evolving complicated security environment and trend towards globalisation of economies and information demand greater interoperability among any users of international waters where there is any commonality of objective. European nations have a huge economic dependency on maritime trade and sea access for energy and other resources which is underappreciated among electorates.

The sea is also an avenue for irregular military activity and terrorism, for organised crime including drugs trafficking, contraband and illegal immigration. Climate change will provoke immigration problems among others and will enhance the severity of natural disasters at and from the sea.

Concerns about collective defence have re-emerged in Western Europe. Further east of course they had never gone away. The Russian invasion of Georgia has forced some refocusing of NATO's purpose. Western response was to some extent led by a European Union (EU) political initiative. Unsurprisingly the most noticed Western military response to the invasion was the movement of US warships to the Black Sea. In such moments of diplomatic crisis, gunboat diplomacy, purely symbolic though it may have been, is often the only option. And there was a nuance to the message which may have been unintentional at the time that related to Ukraine, the Crimea and the Russian naval base at Sevastopol.

A review of naval roles and missions confirms that there would be very few occasions when some degree of multinational interoperability would not be important particularly for smaller navies:

Table 1 – Naval Roles and Missions

Security of territorial seas, Exclusive Economic Zones etc.
Disaster relief
Security of trade routes
Intelligence
Naval contribution to diplomacy
Inherent conventional deterrence
Territorial defence
Evacuation of non-combatants
Sea control for military interventions
Delivery of military capability
Combat support to land operations
Strategic nuclear deterrence

Of these roles and missions three broad categories bear particular mention:

Maritime Security which embraces disaster relief, some aspects of security of nationally governed waters, security of trade routes, and military

sea control to some extent. There is an important issue of numbers of platforms ergo dispersability, leadership and demonstration of best practice in an international context. Furthermore there are implications specifically for European security in which the US may not have equivalent national interests in relation to particular situations. There is a need therefore for a specifically European capacity. A corpus of maritime security activity is a matter of obligation rather than choice for governments but they individually are unlikely to have the scale of forces to take action. The obligation to their electorates can only be discharged through international co-operation.

Suasion, which includes diplomatic action and conventional deterrence. This whole category of activity is poorly understood and difficult to address in policy. Much of the activity is pre-emptive and precautionary and it is of the nature of deterrence, dissuasion and reassurance that the only evidence of effectiveness is likely to be provided by historians. Navies have a unique role in contributing to shaping the security environment through presence and inducement operations. Co-operation reinforces the message of international or multinational common purpose. Europe is key node in this respect whether in the context of NATO, the EU or other multinational activity.

Evacuation of Non-Combatants (NEO) There is a range of scenarios which together constitute quite a high level of possibility of occurrence in which European governments would have an obligation to their people to conduct an evacuation of nationals. These scenarios are particularly testing because they are likely to take place at short notice with little time for detailed operational planning. The course of events and outcomes are likely to be very uncertain and there is often the possibility that there will be a need for the temporary protection of enclaves and for combat to effect a fighting retreat. The sea is very likely to be the key enabler. The US may not have a direct interest if there are not many American nationals to be evacuated and individual European nations would not have the capacity to undertake the operation effectively. NEOs should be among the defining scenarios for expeditionary operations but do not typically feature as such.

The Means to Co-operate

In 1993 the Heads of European Navies[3] in their annual meeting considered a discussion paper by the British Chief of the Naval Staff proposing a rationalisation of European navies reflecting national geostrategic situations, recent co-operative practice, common training patterns and the scale and expeditionary experience of individual navies. The initiative was essentially capability focused and pre-dated the emergence of a Common European Security and Defence Policy. In that respect it examined European naval capability whether in a NATO or EU context. However it proposed two notional European battle forces, a northern one with the United Kingdom as framework nation and a southern battle force with France in this role. The 'European' themes of the paper were subsequently developed and published by King's College London[4].

Things have moved on. NATO has developed the NATO Response Force concept and the St Malo process initiated the European Battle Groups. Both concepts include maritime elements. A problem for the development of more integrated maritime capability is that both initiatives are dominated understandably by the land requirements. The interoperability challenges are therefore much greater and the utility of the concepts is very restricted. For this reason the CHENS model of a specifically naval rationalisation plan bears reconsideration. It is not a matter of developing a single European navy with all the political ramifications that this would have. Nor is it a proposal to establish European forces that are independent of NATO and that can compete with the US. The purpose is to exploit co-operability, maximise utility and perhaps allow some strategic role specialisation.

For navies to co-operate they need the scale and capability to deploy and operate beyond their national coastal perimeters. For small nations in particular the ability to co-operate gives extended purpose and utility, advantages of scale and critical mass to their navies. The total number of major European combatant vessels is substantial in comparison with those of the United States and Russia.

[3] Now known as the CHENS meetings.
[4] Michael Codner, *Embracing the Octopus: The Integration of European Maritime Forces in any Future Arrangement for a Common European Defence*, London, Centre for Defence Studies, 1995.

Table 2 - A Comparison of Numbers of Major Combatant Vessels						
	SSBN[5]	SSN/SS[6]	Carriers	FF/DD[7]	Corvettes	Amphibs[8]
Europe	8	74	8	152	30	28
USA	14	58	12	103	0	35
Russia	15	45	1	44	0	28

International Institute of Strategic Studies, Military Balance 2007.

Since the end of the Cold War, however, these numbers have declined markedly. In part this decline relates to the 'peace dividend'. However the trend remains downwards. In the more recent past there have been two other broad challenges for the sustainment and development of European naval capability.

The first factor has been the focus on military 'transformation' in the particular sense of shifting from Cold War militaries configured for collective territorial defence towards the capacity for intervention at distance from the home base. The need for this change has not been universally accepted across Europe. East European countries in particular have retained concerns about Russia's intentions. Part of the price of membership of NATO in particular and engagement of the United States in the security of these countries has been the clear intention to be supportive with military capability to out of area operations led by the US.

This expeditionary focus has created the perception of navies as essentially providing supporting capabilities to land forces. Recent operations in Iraq and Afghanistan have reinforced this perception. The sea is important for delivery of capability and there may be some peripheral activity in littoral regions. However the sea is perceived to be a safe haven and military sea control is not considered to be a fundamental enabler of interventions. Combat support can be largely provided by land capabilities and land based air capabilities.

The second factor is the dominance of US naval capability. Medium expeditionary powers such as France and Britain may wish to retain balanced forces and operational autonomy. For smaller nations there is not a strong rationale for the

[5] Nuclear submarines armed with nuclear ballistic missiles
[6] Other nuclear and conventional submarines
[7] Frigates and destroyers
[8] Larger amphibious vessels

contribution of one or two ships to supplement an operation led by the US involving large formations of American vessels.

Thirdly, defence inflation has its biggest effect on larger platforms. There are arguments that a strategic environment without major power confrontation reduces the need for the most advanced technology and that defence inflation could be minimised. There are strong opposing arguments, however, that the price of commodities whose purpose is competitive will always rise above general levels of national inflation and the trends of costs of naval vessels reinforce this view.

It follows that naval capability places very high demands on integrated multinational force development and planning if numbers are to be achieved and sense is to be made of national investment and the mix of capabilities. The pressure for integration is probably greater for maritime forces than the other environments.

Multinational force planning will of course be only effective if there are common strategic and operational concepts from which the required capabilities can be defined. Neither NATO nor the EU has a strategic concept that is sufficiently robust for this purpose. And bifurcated NATO and EU force planning processes will be inefficient.

The recent initiatives of President Sarkozy towards bringing France into a reformed NATO Integrated Military Structure could conceivably lead to more integrated NATO/EU force planning process. Indeed a revised and more robust NATO strategic concept commissioned as a result of the Strasbourg Summit next spring could in its structure and content invite a parallel and complementary EU Strategic Concept. The Russia problem could certainly be the catalyst for something with rather more guts than the post-Cold war versions. Not that one would suggest a specifically Russia-focused document along the lines of MC 14/3 of the Cold War. The core issues to be addressed are threefold:

- the need for inherent conventional military deterrent capability to deny any emergent militar power a military option to support adversarial policies – to bully or blackmail;
- the recognition that the US may be busy elsewhere, may not have direct national interest in a particular operational requirement and will in any event expect something more than a supplementary contribution to force levels in both capabilities and numbers;
- acknowledgement that the EU, for all its structural flaws, will be the focus for the European economic contribution to multinational security initiatives and evolution of a NATO/EU ‘comprehensive approach’ to inter-agency integration should be based on this premise.

This proposal for greater integration in force planning may seem to be ‘pie in the sky’. However the problem of defence inflation will sooner rather than later force the UK and France in particular to accept that autonomous expeditionary forces with a full range of balanced capabilities are unaffordable even for modest interventions and some form and international context for strategic role specialisation will be necessary. They will need to adopt a more collaborative approach among themselves and with other European allies if the US is to see the complementarity it will expect if the Obama Administration takes, as is expected, a more internationalist approach to matters of defence and security.

National Contributions

How should individual European nations define their contributions to maritime co-operation whether within a more integrated force planning system or individually? There are of course big differences in nations in wealth, size of population, geostrategic situation, constitution, cultural disposition, and expeditionary experience. There is a sequence of decisions to be taken that can be crudely captured in the following questions:

- What are the naval needs for national **territorial defence and security** of governed coastal waters and EEZ? These requirements are an inalienable obligation of government and must be met by the force structure if that is achievable by the nation itself. If it is not, the nation is reliant on collective defence and security and must make an appropriate and dominant contribution for these specific needs;
- What are the **defence and security challenges close at hand** to which the nation should contribute or indeed show regional leadership depending on assets? The Baltic, Black Sea, Mediterranean Sea and Arctic come to mind;
- What naval contribution to collective or cooperative security and military engagement further afield should the nation make for the following reasons:

    - Because it is **appropriate** to other defence needs addressed in the earlier questions? Naval forces may be needed as insurance at home but can contribute to intervention on the understanding that they can be brought back when required;
    - Because the nation has a particular **dependency** on some aspect of international security for instance on maritime trade;
    - As part of a **bargain** with other allies, friends and partners in return for their contribution to the nation’s direct security interests? The

US is clearly a major customer for this bargain but other expeditionary nations may have similar claims;

- For **moral reasons** as a comparatively wealthy nation in global terms;
- For **influence** either in a multinational context or bilaterally over a particular nation (such as the US)? Nations with particular expertise and leadership abilities for instance for framework nation status, early intervention, or peace support operations, may wish to exploit these;
- For **continuity of capability and experience**? The nation has the capability and experience perhaps for legacy reasons and has the substance to contribute militarily for the reasons above perhaps at the expense of non-military contributions to security (eg. international development).

Achieving Interoperability

Effective co-operation is dependent on interoperability. There is a spectrum of interoperability that extends from coordination through to full integration of forces at the lowest tactical level. Full scale combat typically requires very high levels of interoperability while naval forces in particular can do a great deal in constabulary and benign operations with some fairly simple technical connectivity.

There are two primary components to interoperability; technical and behavioural. The emphasis is often placed unduly on technical interoperability. There are of course huge challenges in achieving multinational network enabled capability with the ultimate objectives of full ‘sensor to shooter’ connectivity and the ideal common operating picture.

A vast amount has been written on technical interoperability. In this short paper there are three general points to be made. First, in the maritime environment there is a great deal of experience going back to the 1970s. The environment is far less complex than on land (with the exception of the underwater plot) and the modules (ships) are large and highly integrated internally. Secondly, there are inevitably within an alliance or coalition levels of interoperability among participants and these must be recognised in planning. Most progress is made in technical interoperability bilaterally with international contributions such as NATO’s being in acting as the agent and repository for standards. Finally, technical interoperability is in itself hindered by behavioural problems in relation to security, ownership of intellectual property and ‘commercial’ considerations.

Many of the principal challenges lie in behavioural interoperability expressed in doctrine, TTPs and actual practice but influenced by cultural, legal and constitutional considerations and of course international politics. In the maritime domain behavioural aspects tend to be more easily manageable than in the land environment for a host of reasons many of which have already been addressed. Inter-agency interoperability (with the merchant service, coastguards, shore based entities etc.), while complex, is more straightforward where there is a will. The 'comprehensive approach' is part of the way of life at sea.

There are impediments to interoperability. Regular exercising is an important contributor but high levels of operational activity reduce the availability of ships for exercising. The operations themselves are very important contributors but improve specific aspects of interoperability to the detriment of others such for instance as combat anti-submarine warfare.

Finally there are the issues of comparative competences and national priorities alluded to earlier. There are nations who take multinational interoperability seriously and others who do not for a variety of reasons. These disparities must be addressed in operational planning. The usual devices for addressing units and nations that have poor interoperability is geographical and role separation. These remedial devices are not solutions and reduce effectiveness.

Conclusions

It is not difficult to identify the needs for greater European maritime co-operation. The basis is adequate maritime capability and this requires:

- understanding of Europe's economic dependency on the sea;
- acceptance that the vast majority of the seas are ungoverned and that there is no constabulary instrument apart from navies to ensure order. This is not a diversion from proper use of military assets but a defining role and obligation to governments to discharge;
- understanding of the naval contribution to diplomacy and the options this provides to governments and international institutions;
- awareness of the need for inherent conventional deterrence;
- integrated European force planning based on strategic coherence and structural coherence between NATO and the EU;
- positive support of the US to an improved European contribution derived from greater European internal integration of force structures and strategic role specialisation.

The problem is of course in making objective recommendations in particular in relation to NATO and the EU which are not interpreted in political terms.

From a purely naval viewpoint the emerging strategic environment and recent experience may reinforce the case for naval capability. The Russia problem is not one of returning to Cold war static land capability but of having expeditionary options for the near abroad and suitable diplomatic instruments. It should be seen as an example and benchmark for future major power confrontation rather than the ‘threat’ that must be directly addressed in force planning. Implicit is the need for combat capability and for substantial integrated European maritime capability to ensure access in the near abroad.

There is also likely to be reluctance in governments and electorates for the intervention operations such as those in Iraq and Afghanistan involving regime change and long term land force commitment. For nations wishing to contribute to global security for reasons of influence and responsibility there may be a tendency to look to preventive and precautionary options and discrete interventions. However realistic this range of scenarios will prove to be, it does make a maritime focus more attractive, particularly if the importance of NEO as a defining scenario for European force development is accepted.

In any event European navies need co-operation for their own survival to a greater extent than their army or air force colleagues. In their favour there is the old schoolboy adage that dogs have options to comfort themselves not available to humans. This metaphor can be applied to naval co-operation. Why do navies co-operate? – Because they can.

The Royal Swedish Navy: An Outsider's Perspective

Lee Willett

Introduction

In 2006, returning from deployment to the Mediterranean, the Visby-class corvette HMS *Helsingborg* passed through the English Channel. As the stealth ship ghosted through, only her AIS transponder signal was picked up by the UK radar surveillance centre in Dover. The ship herself was invisible. As Dover issued a radio warning to all ships in the area about the presence of a stealth ship, the ship also put up additional radar reflectors to make herself visible.[9]

Deploying the stealthiest technology as far away as the Mediterranean is indicative of the ambition of the Royal Swedish Navy (RSwN) to have greater international influence. This paper will discuss whether the RSwN has the organisation, money, and political and public understanding and support to fully realise that ambition.

Setting the Scene: Evolution or Revolution in the International System?

The RSwN is in the middle of bringing into service a new generation of core capabilities. Yet these were conceived largely in a Cold War context, and to meet the requirements of operating in the Baltic and adjacent littoral areas.[10] From what was, for a long time, a fairly predictable international system, the strategic environment has changed fundamentally since the end of the Cold War, and today is characterised by increasing levels of instability and unpredictability.[11]

[9] Jane's Defence Weekly, December 2006.

[10] Littoral areas are defined as 'coastal sea areas and that portion of the land which is susceptible to influence or support from the sea'. See Royal Navy (2004). BR1806: British Maritime Doctrine. Third Edition. By Command of the Defence Council. Norwich, UK: The Stationery Office (TSO). p.268.

[11] In revolutionary terms, there have been four pivotal moments since the end of the Cold War: the collapse of the Soviet Union; 9/11 and the start of the Campaign against Transnational Terrorism (CTT); the war in Iraq; and Russian resurgence, as typified by the war in Georgia. These moments should be set in the context of other significant, but more evolutionary, changes: the positive – and negative – implications of globalization, including growing contests over resources; the growing significance – and, thus, vulnerability of – the global resource infrastructure; the West's increasing desire to look east – not at Russia but at the Far East; the rise of China and India; the rise of the influence of Islamic fundamentalism and of other non-state actors; developments – both positive

From Sweden's viewpoint, with a direct attack on its homeland seen as unlikely, a very defensive Cold War posture designed to face down the Soviet threat has been replaced by a desire to make a wider contribution to international security - across the Baltic, in Europe and beyond to areas where the European Union (EU) has interests. Yet the Russian invasion of Georgia in the summer of 2008 showed that old habits die hard.

Whether the strategic environment is new, the same, or a combination of both, the use of the sea remains critically important. So too does the political and military utility of naval forces. Their ability to provide, from international waters, flexible, adjustable effects at the place and time of choice across the spectrum of hard and soft tasks - many of which are obligatory - and operating with short reaction times without creating a footprint on the ground buys time, opportunity and influence without embroilment.

Sweden's Armed Forces are in the middle of a strategic, conceptual, operational and capability transformation process to develop forces which are more deployable, adaptable and which 'must be capable of being used globally, in Europe and our immediate vicinity and, when necessary, on our own territory'.[12] As the only arm of Government permitted to engage in armed combat, the Swedish Armed Forces have four core roles[13]:

- To prevent and manage conflicts and war
- To provide Sweden with freedom of action to guarantee national sovereignty and the integrity of Sweden's interests
- To protect Swedish society and its ability to function
- And to support the civil community nationally, as well as being used internationally.

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and negative – in the African continent; the opening up of the Arctic Ocean; the stretching – and possible weakening – of traditional multi-national institutions (such as the United Nations, NATO, and the European Union) and of the Western capitalist politico-economic system as a whole.

[12] See: Rear Admiral Anders Grenstad (Chief of Staff, Royal Swedish Navy). Quoted in 'The Commanders Responds', in Proceedings, vo.134/3/1261, March 2008. Annapolis, MD: USNI. p.41; Defence in Use. Report of the Swedish Defence Commission, 13th June 2008.

[13] See, for example: Defence in Use.

Naval forces fit neatly with each of these tasks. With states endeavouring to take a more multinational approach to international problem-solving, the inherent naval experience of multinational interoperability again brings navies to the fore.

In this context, the RSwN provides particular, niche capability contributions both to Swedish and to wider international operations. The RSwN carries out what are traditional naval tasks, such as: generating presence to deter threats and to execute sea control; conducting maritime security tasks including securing Sea Lines of Communications (SLoCs), for example to ensure the free passage of trade[14]; intelligence-gathering; mine clearance; logistic support; and combat operations. In addition, the RSwN gradually is being reconfigured to provide greater flexibility in capability and deployability beyond the littoral waters of the Baltic and North Sea to operate at distance and in a wider range of scenarios, and to provide a greater-still contribution to both joint and combined operations. This, effectively, is an expeditionary approach. In British maritime doctrine, expeditionary operations are defined as 'military operations which can be initiated at short notice, consisting of forward deployed, or rapidly deployable, self-sustaining forces tailored to achieve a clearly stated objective in a foreign country.'[15] As a result of this shift in posture, the RSwN will need to configure its capabilities, crews and infrastructure to contribute to relatively long-lasting, distant operations. Recent operations highlight the RSwN's shift in emphasis.[16]

As well as the deployment of the Gotland-class submarine HMS *Gotland* to San Diego (discussed below), the deployment of her sister submarine HMS *Halland* to the Mediterranean in 2000 was the first ever visit there by a Swedish submarine.[17] In 2006, the corvettes HMS *Gävle* and HMS *Sundsvall* deployed to sup-

[14] With the issue of the security of maritime resources and trade becoming more significant, Sweden - as an island nation with a relatively small economy – is highly dependent on international trade and is just as reliant on – and vulnerable to – a 'just in time' trade approach (see, for example: Grenstad. 'The Commanders Responds', p.41).

[15] BR1806:. p.257.

[16] In addition to the operations listed, Sweden also has deployed ground forces to: Bosnia-Hercegovina in the UNPROFOR and IFOR-deployments from 1994 and onwards in the nation's first deployment of troops in support of a major coalition operation on the European continent since the Napoleonic wars; in Kosovo from 1999 (KFOR); in support of ISAF in Afghanistan (as part of a broad and long term commitment); to Liberia (under a UN operation); to Macedonia (under a European Union – EU - operation); and to the Congo. See: Niklas Granholm. 'Centrifugal Forces? Some Strategic Implications of Changing Defence Structures in the Nordic Countries', in World Defence Systems, Autumn 2004, vol.7, issue 2. p.54. The RSwN also is continuing to conduct training exercises with a range of international navies, such as the annual mine warfare exercise LEJON SINGA with the Royal Singapore Navy (RSN) (see: MINDEF and Royal Swedish Navy Press Release, 'Republic of Singapore Navy and Royal Swedish Navy Conduct Annual Exchange Programme, Ex LEJON SINGA'. 08 Jun 2007. Available on-line at <http://www.mindef.gov.sg/imindef/news_and_events/nr/2007/jun/08jun07_nr.html> . Accessed 13th October 2008).

[17] Eric Wertheim (2007). *The Naval Institute Guide to Combat Fleets of the World: Their Ships, Aircraft and Systems.* 15th Edition. Annapolis, MD: Naval Institute Press. p.736.

port the United Nations Interim Force In Lebanon (UNIFIL) – the first Swedish warships to do so - to prevent arms smuggling and other illegal activities. In 2008, Swedish Marines deployed to Chad in support of the EU military bridging operation.

In the immediate future, there are plans to deploy *Gävle* and *Sundsvall*, plus perhaps Special Forces, to the East African coast in 2008 to support the maritime security effort as part of Operation Alycon. RSwN Chief of Navy Rear Admiral Anders Grenstad has stated also that the RSwN is 'planning to take part in Operation ACTIVE ENDEAVOUR in the Mediterranean [in 2009] or the following year, and [has] had a request from the Americans to take part in surveillance on the west coast of Africa with a submarine unit.'[18] The RSwN also will contribute a ship to the EU Naval Force (EUNAVFOR) destined late in 2008 for anti-piracy operations off the Somali coast.[19]

Case Study 1 – Russia

But this wider focus does not mean that the challenges of operating in and around the Baltic have gone away. Sweden straddles the geo-strategic fault line dividing Russia and the West.[20] On the Russian issue, Sweden is right to be concerned, to take a firm line, and to be taking the time to consider the implications of Russia's invasion of Georgia. While caught out by the invasion, like many, Sweden was more forthright in its response than the EU and many of its nations. With Russian actions showing disregard for international rules, treaties and borders, Sweden called the invasion an attack on the international legal order, froze all military contacts with Russia and (to allow for an urgent security review) postponed the delivery of a defence bill until March 2009. Russia clearly has seen the war as a political, economic and military success, and will have been far from discouraged to intervene in other areas of 'privileged interest' by what it will have seen as a relatively tame Western response. Sweden's Prime Minister told Parliament that Sweden 'will not remain passive' if there is an attack on another EU or Nordic state, and similarly that it expects others to come to defence of Sweden.[21]

Despite the rise of the Islamic terrorist threat and the growth of China and India, it has been a strategic error of some significance for the West to ignore Russia.

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[18] Jon Rosamond. 'Fleet Review – Sweden', in *Jane's Navy International*, October 2008.
ACTIVE ENDEAVOUR is NATO's Article Five maritime security operation in the Mediterranean.

[19] See: 'ESDP Operations: Operation to Combat Piracy in Somali Waters on Track', *Europolitics*, 17 Oct 2008.

[20] Nick Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials', in *Jane's Navy International*, vol.111, no.7. September 2006. Coulsdon, Surrey: Jane's Information Group. p.22.

[21] Prime Minister Fredrik Reinfeldt. Speech to opening of Parliament, 16th September 2008.

Russia remains the world's second largest nuclear power, and is a potential energy superpower. In the Georgian war itself, despite questions about the quality of its capabilities, Russian operations showed a clear element of pre-planning – a factor which should be of concern to other states in the region. From a maritime viewpoint, the Russia Navy also was quite prepared to blockade a major international seaway, despite the United States Navy (USN) preparing to deploy ships to the region. In the Baltic itself, the Polish decision to agree to the deployment of US ballistic missile defence assets on its territory in the wake of the Russian invasion of Georgia prompted Russia not only to point out that this would make Poland a target in the event of any nuclear exchange but also that – in a clear show of gunboat diplomacy – it would consider re-fitting nuclear warheads to surface ships, submarines and aircraft in its Baltic Fleet.[22]

The Russian Navy remains beset by personnel and funding problems, the latter situation exemplified by two facts. First, recent high-profile deployments to the Mediterranean, Syria and Venezuela, and the operations in Georgia, generally have featured the same or all of same ships, the repeated appearance of which suggesting, despite these ships being some of the more capable ships within the Fleet, that they may be the only assets which are seaworthy.[23] Second, the presence of support ships in the battlegroups suggests concern in the Russian Navy itself about their seaworthiness. Yet this should not mask what is clearly renewed Russian intent to use its Navy to project and protect Russian interests on a global scale. Threat is the product of capability plus intent. Under Vladimir Putin, an increasingly nationalistic Russia – acting, in the view of some, more like a nineteenth century power than a twenty-first century one – sees its Navy as an evermore important political and military tool.

Of course, each of the Baltic's regional states have significant interest in the use of the Baltic Sea, and access to it for military, trade, resource and other purposes remains critical. Each year, 100 million tonnes of crude oil passes through the Baltic from Russian terminals in the Gulf of Finland. The proposed Nord Stream pipeline between Russia and Germany will carry 55 billion cubic metres of gas each year. Given Russian stated intent to protect areas of what it refers to as 'privileged interest' and given previous suggestions that Russia may seek to sta-

[22] For reference on the Poland situation, see: Andrew Pierce and Harry de Quetteville, 'Russia Nuclear Strike Threat: Warning to Poland after Missile Shield Deal with America', *The Daily Telegraph*, 16th August 2008, p.11; Catherine Philp and Tony Halpin, 'Russia in Nuclear Threat to Poland', *The Times*, 16th August 2008, p.1.
For reference on the re-arming the Russian Baltic Fleet with nuclear weapons, see Mark Franchetti, 'Russia's New Nuclear Challenge to Europe', *The Sunday Times*, 17th August 2008, p.1.

[23] These ships included the aircraft carrier *Admiral Kuznetsov*, the guided missile cruiser *Peter the Great*, and the cruisers *Admiral Chabanenko* and *Moskva*.

tion warships and build permanent manned observation towers above the pipeline no matter through whose waters the pipeline passes, where resource and military interests meet may be the crux of any potential crisis in the Baltic. The other area of interest for Sweden with regard to Russian activity is, of course, the Arctic Ocean.[24]

Just how Sweden would respond to particular Russian activities in these regions in reality is not clear. What is clear, though, is the need for a strong and well-balanced posture. Yet the questions remain of whether the Georgian situation should be seen as the exception or the norm in current Russian behaviour, whether Russia is a now a threat again, how any threat may manifest itself (no doubt, in ways different from the Cold War), and what Sweden might need to do about it.

Capabilities

Navies can be seen as more or less powerful – and, thus, important – by the capabilities they posses and the tasks they carry out. While the implications of many of the geostrategic issues facing Sweden remain unclear, the efforts of the RSwN to contribute to international security are well noted and, in particular, the quality of the RSwN's capabilities are very clear. Many navies are interested in Swedish naval developments, in terms of operational and capability concepts, technology, but also – now that the RSwN is gaining experience of operating at distance – in support capabilities as navies look to understand the implications of forward basing and operating at distance. Yet each of the RSwN's major programmes faces critical challenges. The core capabilities in any expeditionary navy are surface ships, submarines and amphibious forces. In this context, three case studies are worth analysing.

Case Study 2 – the Visby-class corvette

The Visby-class corvette perhaps is the classic example of the wider transformation of the Swedish Armed Forces. Yet the Visby programme also is indicative of many of the challenges facing navies as a whole. Trying to bring in much needed new technology against a backdrop of financial and procurement problems often

[24] Many key questions remain about the Arctic, such as when particular routes will be fully open, what kinds of sea states will exist and what these will mean for current and future ship designs, how commercial and military users will operate (and support those operations at distance), and how will particular territorial disputes be resolved. Other nations are already developing assets to operate in the newly opened Arctic.

sees delays which in turn make it difficult to match original concepts to changing strategic realities.

Concept

Sweden is the only country to have built a ship to full stealth specifications to date. The ships also have met performance parameters in a very successful set of sea trials so far.[25] According to Admiral Grenstad, the five Visbys 'will form the backbone of the Swedish Navy's surface combat capability for years to come.'[26]

The Visbys were designed to carry out core tasks in open, coastal and 'extreme' – for example, riverine – littoral waters in the Baltic and adjacent seas.[27] These tasks, enabled significantly by the ships' stealth, include: monitoring and securing the use of sea areas, SLoCs and resources; and engaging surface and underwater targets, in addition to possessing a mine warfare capability. While the stealth capability may be a major component of the ships' defensive capacity, it also very much is an enabling factor, allowing the Visby to control the maritime environment above, on and below the sea.[28] Today, however, the Visbys will be required to conduct these and other tasks ever further afield, reflecting Sweden's changing strategic and operational outlook, as a core part of the RSwN's rapid reaction capability. The intent also is to develop a Concept of Operations (CONOPS) which will enable the ships to deploy quickly and for up to 12 months, with support infrastructure and with crew rotation (especially because of minimal habitability on board), and with four of the five ships available at any one time.[29]

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[25] Commander Hakan Nilsson (Commanding Officer of *Visby* during sea trials). Interview in *Naval Forces*, vol.26, no. 4. 2005. Bonn, Germany: Monch Publishing. p.83. Commander Nilsson reported that *Visby* had performed well in all sea states.

[26] Kockums. 'Visby: the Concept for the Littoral Zone'. Interview with Rear Admiral Anders Grenstad, 3rd October 2008. Available on-line at <http://www.kockums.se/news/081003anders.html> Accessed 10th October 2008.
The RSwN orbat also includes four Goteborg-class (HM Ships *Goteborg*, *Gavle*, *Kalmar*, and *Sundsvall*) and two Stockholm-class (HM Ships *Stockholm* and *Malmo*) corvettes.

[27] The Visbys' shallow draft will enable the ships to operate in riverine littoral waters (see: Joris Jansen Lok. 'Phantom Ships – Swedish Navy's Visby-class Waits in Post-Construction Wings', in *Jane's International Defence Review*, vol.40, January 2007. p.59).

[28] See Grenstad: '*Visby* Class Corvette: Core System for the Extreme Littoral'. *Naval Forces*, vol.26, no. 4. p.85; 'Future Surface Combatants in the Royal Swedish Navy', *RUSI Defence Systems*, October 2007. The vessel can also de-activate its stealth mode, if it wishes to demonstrate its presence, and then reactivate it to 'vanish' again.

[29] Nilsson: Quoted in Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials', p.26; Interview in *Naval Forces*, p.82.

Capability

According to Admiral Grenstad, 'multi-mission capability on a platform is essential, and furthermore [is] cost efficient, and multi-functionality and flexibility give multi-mission capability.'[30] The first four ships will be roled primarily for mine warfare operations – with Autonomous Remotely Operated Vehicles providing a core component of this capability – and Anti-Submarine Warfare (ASW) tasks. The last vessel will be roled primarily for attack and Anti-Surface Warfare (ASuW) roles. All ships will have a significant Unmanned Vehicle (UV) capability, a 57mm retractable gun, and the capacity to operate the Agusta 109 light helicopter (although the stealth design did not permit the building of a hangar). The Visbys' networked C4I capability (with CETRIS and, in due course, Link 16) will enable them to operate as command ships. Indeed, Visby's connectivity is indicative of the wider leadership the Swedish Armed Forces exhibits in the areas of networked warfare. The Visbys' combination of these weapons systems, stealth, and connectivity constitute a 'great leap' in capability which will enable the ships to cover all types of naval mission in the complex modern strategic environment, and the RSwN itself to punch above its weight.[31]

Challenges

Yet there remain some issues with the Visbys. First is the need to get them into service. The programme began in the mid-1980s, with plans for perhaps as many as ten ships.[32] There are always problems with a new class of ship and, of course, the Visby is full of technological innovations.[33] Yet delays and cost overruns have seen the programme reduced to just five ships which are all late entering into service.

[30] Grenstad. 'Future Surface Combatants in the Royal Swedish Navy'. pp.104-106.

[31] See: Grenstad. 'The Visby-Class Corvette'. Speech to Royal United Services Institute Future Maritime Operations Conference 2008 (3rd-4th June 2008. RUSI, London) and 'Future Surface Combatants in the Royal Swedish Navy'; Nilsson. Interview in Naval Forces, and quoted in Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials'. pp.22-4.

[32] See, for example, Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials'. p.23. Brown argued that the original plan included separate batches of ASW/MCM (four) and ASW/ASuW (six) ships.

[33] Problems appear to be due to the complexity of delivering modern defence technology, such as in this case a complex fire control system and signature, sensor integration, weapon integration and safety issues.

Ship-builder Kockums has argued that the ships, while being more costly to build than a conventional corvette, will be much cheaper to run.[34] This remains to be seen, as maintaining new, high-end technologies will be just as much of a learning process as bringing them into service was. It also has been argued that Kockums wanted to get all five ships into build at the same time as it had only a small order book. The net result of this, however, was to have five ships not ready, rather than getting one at a time ready. Yet now, at least, the ships will enter into service very closely together. With *Visby* and *Helsingborg* assuming an interim operational role in 2009, the remaining ships will follow every six months, with full operational availability expected by 2012.[35]

Second is the ships' CONOPS and role for which they were designed. Much of the debate surrounding the Visby has focused on cost and capability rather than CONOPS – the what, rather than the why. Designed for a receding threat, adjusting the CONOPS to a new range of threats and re-roling the ships from single- or dual-purpose to a multi-mission capability clearly was difficult and caused considerable delays, despite the ship's evident qualities.

Third, in terms of the ships' raw capabilities, some argue that the weapons fit is 'basic'.[36] The hull, reduced in size in part to assist in the development of the ship's stealth capability, is not big enough to house helicopters and UAVs, or a long-range land attack capability.[37] The ships have no surface-to-air missile capability at present, although are designed to accommodate such a fit. The installation of a 16-cell surface-to-air missile vertical launch system remains a possibility.[38] The ship also retains the capacity for connectivity upgrades. Admiral Grenstad accepts that Visby lacks the endurance required for international opera-

[34] Sean Dodson. 'Secrets of the Stealth Ship. The Future of Naval Warfare May Just be Swedish'. The Guardian, 13th May 2004. Available on-line at http://www.guardian.co.uk/science/2004/may/13/2 . Accessed 13th Oct 2008.

[35] See Grenstad: 'The Visby-Class Corvette'; 'Visby: the Concept for the Littoral Zone'. Visby (K31) was launched in June 2000 and delivered to the Swedish defence procurement agency (FMV) in June 2006. Helsingborg (K32) was launched in June 2003 and delivered in April 2006. Harnosand (K33) was launched in December 2004 and delivered in June 2006. Nykoping (K34) was launched in August 2005 and delivered in September 2006. Karlstad (K35) was launched in August 2006 and delivered in September 2008. The original plan was for the ships to enter into service in the 2005-2006 timeframe. See: Mats Elofsson (Project Manager, Programme Manager Visby, FMV) and .class Waits in Post-Construction Wings'. p.61; Wertheim. The Naval Institute Guide to Combat Fleets of the World:. p.737.

[36] Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials'. p.23.

[37] Long-range land attack capabilities are an essential part of influencing events ashore in expeditionary operations, and is a core requirement for EU navies, with the European Security and Defence Policy (ESDP) requiring the EU to build and an inventory of 1300 SLCMs (Rob de Wijk. Briefing to seminar on 'The Netherlands Armed Forces and Cruise Missiles', Netherlands Institute of International Relations, Clingendael, The Hague. 8th April 2005).

[38] Rosamond. 'Fleet Review – Sweden'.

tions further afield, stating that he 'would like to have it a little bit bigger, but the support ship can help with endurance'.[39] In sum, is the trade-off in size to enable stealth design now the factor which limits the potential for capability upgrades and also - with distant deployments being an increasing part of the RSwN's *modus operandi* today - the sustainable distance at which the ships can deploy?[40] Nevertheless, only once all five Visbys are in service and operating regularly will their full value on the one hand, and challenges in upgrading their capabilities on the other, be fully appreciated.

The Visbys should, however, provide a sound basis for the development of the RSwN's next generation corvette, known at this stage as the Modular Multi-Function Corvette, and which has an anticipated In Service Date (ISD) of 2020. The current concept for the new platform is one which can operate in littoral areas, but also be able to operate globally – and thus transit blue waters. With the requirement for increased endurance, along with improved mission-specific modularity and multi-functionality as well as improved capabilities across the board, it is likely that the new ship will be larger than the Visbys.[41] A larger platform will provide greater capacity for capability upgrades, even if the platform is only fitted, for now, with weapons in the first instance. If budgets remain challenging a 'for not with' fit also provides the capacity to fit an interim capability initially, with something better coming later. A larger platform also will be more deployable and more survivable. This may, of course, precipitate trade-offs in its stealth capability. The RSwN is looking at surface warfare concepts being developed in other nations.[42] However, it may need to ask whether a corvette or a frigate is the right solution.

[39] Rosamond. 'Fleet Review – Sweden'.
[40] Brown. 'Sweden Assesses Stealth of the Nation with Visby Trials'. p.22.
[41] Grenstad: 'Future Surface Combatants in the Royal Swedish Navy'; '*Visby* Class Corvette: Core System for the Extreme Littoral'. p.85. New weapons system developments will include: UV, MCM, Surface to Surface/Air Missile (SSM/SAM), ASW/ASuW, and naval fires.
[42] For example, it appears there may be interest in the Royal Danish Navy's 6,300-ton Absalon-class combat and flexible support ship. With the first of class delivered into service only four years after being laid down, Robert Dalsjo has argued that the Danes have succeeded in delivering a range of capabilities for the Absalon-class at an affordable price by keeping things simple (see Dalsjo, 'We No Longer Need a Sports Car, We Need a Station Wagon - Conceptual Challenges for The Royal Swedish Navy'). The Absalon-class already has generated interest in navies like the Royal Navy, and the lead ship already has been involved in maritime security operations off Somalia as well as heading Combined Task Force (CTF)-150 in the Arabian Gulf. However, there remain questions (for example, in the UK) over a programme like the Absalon-class, relating for example to the challenges of building naval ships using commercial standards and of future costs for modular concepts.

Case Study 3 – Future Underwater Capabilities

Sweden's submarines are considered a national strategic asset.[43] The role of the submarine flotilla is to provide capability for covert monitoring of sea areas, intelligence gathering, sea control, and the engagement of both underwater and surface targets.

Much of the focus regarding the RSwN's submarine operations in recent times has centred on the deployment of Gotland-class submarine HMS *Gotland* to San Diego on 'secondment' to the USN's Pacific Fleet. However, the submarine flotilla also has become the first flotilla to operate the Stirling Air Independent Propulsion (AIP) system. It has been argued that AIP enables the boats to operate as two submarines.[44] Presumably this is as an SSK, of course, being very quiet at slow speeds; and almost as an SSN, being able to remain submerged for up to three weeks. Providing a capability which far outstrips any other diesel boat capability, AIP has revolutionized Swedish submarine operations and has turned the Gotland-class into one of the world's finest non-nuclear submarines.[45]

As with the surface fleet, the submarine flotilla is re-aligning its CONOPS and capabilities to increase its effectiveness in the new strategic environment. It is looking to enhance the Gotland's communications, AIP-enabled stealth, Intelligence, Surveillance and Reconnaissance (ISR), Special Forces operations, unmanned underwater vehicles (UUVs), mine warfare, and ASW capabilities, although perhaps with less focus on ASuW.[46] The Gotland's six torpedo tubes also offer flexibility in capability. The flotilla also is looking to take in a much wider area of operations. The boats will continue to play a significant role in the Baltic, for example in covert operations such as intelligence gathering. However, they are playing an increasing role in the North Sea, Atlantic, and Mediterranean, and clearly will have a significant role to play in the Arctic. Much further from home, they also have been playing an active role in the Pacific.

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[43] As well as three Gotland-class (A19) SSKs (HMSwN ships *Gotland*, *Uppland* and *Halland*), the RSwN has two Vastergotland-class SSKs (HMSwN ships *Vastergotland* and *Halsingland*).

[44] See: Interview with Lieutenant Commander Fredrik Linden (Commanding Officer, HMS *Gotland*) in *Jane's Navy International*, vol.112, no.9. November 2007. p.34.

[45] See, for example: Commander Jonas Haggren (Commanding Officer, 1st Submarine Flotilla). 'The Swedish Submarine Force – a Strategic Asset?' Presentation to RUSI SUBTECH08 Conference (14th-15th January 2008. RUSI, London).

[46] See: Haggren. 'The Swedish Submarine Force – a Strategic Asset?'; Captain Bo Rask, 'The Swedish Submarine Force in the Future'. *Naval Forces*, vol.24, no.3 (2003). Bonn, Germany: Monch Publishing.

Gotland in San Diego

Under its Diesel Electric Submarine Initiative (DESI), the USN invited *Gotland* to work with the Fleet Anti-Submarine Warfare Command and the Pacific Fleet.[47] In what was a high profile opportunity for both navies, the USN was able to sharpen its ASW skills against a high-quality diesel-electric boat, especially in littoral waters, finding some degree of success. For the RSwN, it reported that *Gotland* (acting as the opposing force) 'sank' the aircraft carrier USS *Ronald Reagan* and other surface ships and submarines, and that the USN found difficulty in tracking the boat in both littoral and blue waters - even with the boat's radiated noise augmented to make it easier to find.[48]

The RSwN also learned a great deal from the opportunity. Overall, the boat performed far better than expected in operational and tactical terms, as too did the logistics infrastructure required to operate and maintain the boat at distance.[49] Perhaps the only surprise was that the RSwN found no surprises in the way it operates and maintains its boats.[50] The RSwN improved its understanding of international mission requirements and interoperability. The activity also reinforced established RSwN thinking about the role of its submarines – not least, the strategic need for a submarine capability in the first place. According to a USN

[47] The invitation was extended to the RSwN after the USN was unable to track the *Gotland* during an exercise.

[48] For further information on the San Diego deployment, see: James W. Crawley. 'San Diego May Give Berth to a Swedish Sub: Navy is Looking for a Very Quiet Vessel', San Diego Union-Tribune, 17th October 2004; 'US and Sweden to Conduct Anti-Submarine Warfare Training.' US Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs) News Release. http://www.defenselink.mil/releases/release.aspx?releaseid=7882 . no.1083-04, October 29, 2004; Christopher Cavas, 'Swedes to Say Farewell to San Diego', Defense News. 25 May 2007; Kockums. 'RSwN Submarine HMS Gotland on Lease to US Navy for Twelve Months' (31st May 2005) and 'USA to Lease Gotland-class Sub' (5th November 2004), <http://www.kockums.se> ; 'Swedish Submarine Continues to Play Important Role in Joint Training', Navy Newsstand, 20th December 2005, http://www.news.navy.mil; Linden interview, Jane's Navy International, p.34; Audrey McAvoy, 'USS Ronald Reagan Trains to Find Silent Threat', Associated Press, 22nd January 2006; Norman Polmar, 'Back to the Future', United States Naval Institute Proceedings (Annapolis: March 2006), pp. 20-26.

[49] In terms of operations and tactics, Gotland and its crew benefited from the experience of operating in different and unfamiliar waters, learning different ways of defending the boat in particular, especially in deeper water. In terms of logistics, working to a strategy of undertaking maintenance regularly over a period of time rather than less frequent but more significant work, the core team of just four people was reinforced as and when needed by flying in additional personnel. Maintaining the boat at distance – including working the logistics when nine time zones away from homeport - also increased the service and repair experience both of the crew and of the support team. A more available boat meant that the boat delivered more sea days than required, generating 150 days at sea in the first year with from crews and 120 days in the second from one. The boat thus spent twice as much time at sea than it would have done over a similar period at home.

[50] For reference on the lessons learned, see: Linden interview, *Jane's Navy International*, p.34; Haggren. 'The Swedish Submarine Force – a Strategic Asset?'

spokesperson, 'everything we asked of them, they exceeded our expectations.'[51] It has been suggested that the RSwN may return to San Diego in 2009.

Sweden's Next Generation Submarine

Equally important is to examine what the RSwN needs to do next in underwater capability terms. Sweden is developing concepts for its next generation submarine. The originally-planned Viking programme was terminated after Denmark and Norway withdrew from the development programme, the Norwegians citing in particular the programme's high cost.[52] Instead, Sweden's Defense Materiel Administration (FMV) and Kockums are developing a new modular design concept, designated the Next Generation Submarine or A26 concept.

The new boat design will be based around flexible, modular mission packages supported by an open architecture, and in particular will aim to improve special operations, sensors and communications, interoperability, manoeuvrability, endurance and stealth capabilities – the latter two capabilities being enabled by an AIP system. This design may require a slightly larger hull but, in particular, a larger tube in the bow would permit the deployment of divers and unmanned vehicles. Many other navies also are exploring the concept of fitting long-range conventional land attack cruise missiles to submarines – still perhaps the truest form of delivering stealthy surprise. The RSwN is assessing whether it should dual-crew the boats, to give crews more time at home while still being able to keep boats at sea. Deploying the boats at sea for longer periods will, of course, lead to increased maintenance requirements.

The design phase for A26 began in 2007, a contract for detailed design is anticipated in late 2008 or early 2009, and a construction order is anticipated for 2010. The new boats are due into service in 2017 and 2018. The timing of the concept development is interesting, as it may enable new capabilities to be back-fitted into the Gotland boats. Although the programme is under way, funding challenges – amongst other things – mean it is not yet clear how well the programme will progress. In particular, while a flotilla of up to four boats has been mooted, the number may be as low as two.[53] From the point of view of both operational and industrial critical mass, arguably two boats would be too few.

[51] Cavas, 'Swedes to Say Farewell to San Diego'.
[52] Finland and Singapore also were observers in the programme (see Granholm. 'Centrifugal Forces?' p.56).
[53] The Gotland-class originally was planned to consist of five boats, but was reduced to three.

To reduce cost, FMV, Kockums and the RSwN are seeking to run competitions for as many of the systems as possible, and also are seeking international partners to share the development costs.[54] With Kockums now owned by the German ship builder HDW, there are reports of RSwN interest in developing a modified HDW Type 214 SSK.[55] There may also be interest in developing a boat which can be exported.[56] This will help the programme in financial terms.

Case Study 4 – Does Sweden Need an LPD Capacity?

Sweden's recent experience of deploying troops to Chad has raised the question of whether the RSwN has a requirement for an upgraded amphibious capability. The Visbys and Gotlands have significant capability for delivering presence and providing defensive capability, but Sweden's Marines provide some additional bite across the spectrum of operations, and especially at the high end if needed. If Sweden is looking both to put troops ashore in distant theatres – and especially into non-permissive environments – and to support the Visbys and Gotlands which it wants to keep at sea at greater distances for longer periods, an amphibious and support ship capability would be a significant enabler.

Under the Combat Support Ship (or L10) project, the RSwN is examining options for a Ro-Ro based Landing Platform Dock (LPD) ship which would provide, in a joint sea base: an assault capacity for up to 170 amphibious troops; defensive and offensive capability (including self-defence, C4I, aviation – including capacity for a significant helicopter capability - and land attack systems); a logistics (transport, supply – including replenishment at sea – and repair) capability; speed and sustainability in deployment; and the capacity to support humanitarian operations, for example with medical facilities and with the capacity to deploy materials ashore or to support the evacuation of non-combatants. At a planned 12,000-tons, the new ships would be yet another significant capability

[54] For reference, see: Interview with Gunnar Larsson (Chief Executive Officer, Kockums AB), in *Naval Forces*, vol.28, no.5. 2007. p.98; Rosamond. 'Fleet Review – Sweden'.
With, for example, the Royal Australian Navy having built its Collins-class SSKs from the blueprints of the Gotland-class, nations interested in the A26 programme are reported to include Norway, Poland, Singapore and Australia once again.

[55] Wertheim. *The Naval Institute Guide to Combat Fleets of the World:*. p.735. One critical modification likely would be the retention of the Stirling AIP system, as opposed to the Type 214's own Fuel Cell System.

[56] The RSwN has in hand contracts to sell its two Vastergotland boats to the Royal Singaporean Navy (RSN) following their upgrades (see Defence Industry Daily. 'Singapore Orders Two Swedish Submarines', 8th November 2005. Available on-line at: http://www.defenseindustrydaily.com/singapore-orders-2-swedish-submarines-01453/ . Accessed 13th October 2008).

leap for the RSwN. Different solutions have been considered. The debate has centred on developing a well-armed surface combatant with logistic capabilities, similar to the Danish Absalon-class, or – and perhaps more likely – a lightly armed vessel such as New Zealand's 8,000-ton Canterbury-class Multi-Role Vessel.[57] Again, the key issue here is whether the RSwN is seeking a single-, dual- or multi-mission platform. There may, too, be some overlap between the RSwN's surface combatant and amphibious/support platform requirements.

At this stage, with a tender expected late in 2008 following an anticipated Government decision, the plan is for two ships, due to enter into service 2014 and 2015. Bidding will be open both to defence and wider commercial contractors (with the latter perhaps providing concepts for a commercial-designed and built Ro-Ro passenger ship). One of the drivers behind opening the bidding to commercial contractors may be to reduce cost.[58]

Tough Love?

In sum, is the RSwN clear as to the kind of navy it wants to be, and that its Government wants it to be? In attempting to transform both quickly and affordably, but in response to the fast pace of global change, Sweden's Armed Forces currently are on a steep learning curve, both politically and militarily. Such transformation will have significant conceptual, force structure, capability, operational, funding and political implications for the RSwN. Moreover, the RSwN is facing many of the problems confronting other navies today - strategic definition, money, personnel, technological challenges, and an evident lack of political and public knowledge and understanding of what the RSwN contributes not only to Swedish security but also to its wider interests. One might find a considerable degree of sympathy for the RSwN: amid a fundamental re-alignment of its sphere of interest, strategic posture and military capability as it endeavours to increase its utility for today and tomorrow, a resurgent Russia steps out of yesterday's shadow. Russia's on-going resurgence set against, for example, the challenges of energy security, the campaign against transnational terrorism, and the EU's de-

[57] Rosamond. 'Fleet Review – Sweden'. Other ships of similar type and role are: the Royal Navy's Bay-class Landing Ship Dock (Auxiliary) ship; the German Elbe Type 404 and Berlin Type 702 class replenishment ships; the Rotterdam-class Landing Platform Dock ship; the French Mistral-class Amphibious Assault, Command and Force Projection ship; and the Royal Singaporean Navy's LTS140- class ship.

[58] Depending on its requirements, however, a word of warning may be required when considering commercial options. The Royal Navy's own experience with its Landing Platform Helicopter (LPH) HMS *Ocean* has been a difficult one: a ship designed and built more to commercial than naval ship-building standards has proved to be more difficult – and more costly – to maintain than anticipated.

sire to play a wider political and military role in the world, presents Sweden with the problem of how to balance security in the Baltic with its own desire to play a role elsewhere.

Concepts, Doctrine and Force Levels

Part of the solution to a strategic dichotomy such as this between geography and geopolitics is the development of concepts and capabilities – and procurement processes – which can be adapted, quickly, to changing strategic pressures. Many navies and other Armed Forces are experiencing the frustration of capabilities being overtaken by events. The RSwN is doing a good job of building greater flexibility into not only the Visbys and Gotlands but also into its emerging concepts for future capabilities. There is a school of thought that much time was wasted early in the Visby programme in particular, with the ships being developed for single missions and for a single threat. Admiral Grenstad has argued that limited budgets have driven the RSwN towards developing multi-purpose ships.[59] If this is so, then this strengthens the argument that the Visby's early years could have been better spent.

The RSwN may also need to develop greater strategic clarity – both for itself and in delivering its message to others – in its strategic concept, and particularly regarding its move to a more expeditionary posture. Sweden has an established need to protect interests at a distance, but is the shift towards an expeditionary posture intended simply to make a greater contribution to EU peace enforcement operations, or is the RSwN looking to appear to be more useful to, for example, the USN by having the military capacity to contribute at the higher end of the military scale? Furthermore, does the Swedish public understand and support this shift in emphasis, especially when playing the Russia card to highlight the need to maintain sufficient military force levels may lead for calls for strategic retrenchment rather than embarkation on an elective expeditionary strategy? As with many other nations and navies, Sweden also is suffering from a lack of definition of what are critical national interests, and an understanding of how this definition may change, when viewed from what are inherently different national or international contexts.

For the RSwN, significant capability leaps are being made across the board – but at a price. The RSwN is an active, capable and very well respected Navy, one which has a high profile presence on the world stage today, and one which the Government wishes to deploy and employ. Yet increasing operational demands

[59] Grenstad. 'Future Surface Combatants in the Royal Swedish Navy'

placed on navies, not least because of their utility on a range of scenarios and circumstances, requires greater numbers of ships, but affordability challenges reduce numbers. Moreover, as Sweden's move towards an expeditionary approach continues, investing in capabilities such as unmanned systems, helicopters, and land attack weapons may become more important. Thus, in the context of its strategic requirement, the RSwN may find itself faced with further prioritisation of its capability requirements.

One thing is clear, however – a primary asset of naval forces is their ability to generate deterrence simply by showing presence in a particular region. No matter where one wishes to show presence, presence relies to a great extent on numbers of core capabilities. Whether Sweden is wishing to show presence either in the Baltic or further afield, it will need strength of numbers in its core capabilities – surface ships and submarines. Since the end of the Cold War, the European major navies have reduced numbers of platforms. In so doing, many Governments have made the same mistake: cutting programme numbers because of high unit costs. Cutting numbers increases unit cost, so reducing the affordable numbers and driving the unit cost higher still. Simply, the more you buy, the cheaper they get. It should be noted, too, that as Sweden looks to spread its strategic wings, it may require more platforms to support its aims. Reducing numbers whilst increasing commitments creates a considerable strategic risk. Failure to bridge such a potential gap between commitments and capability provides a strategic opportunity for others to exploit.

Funding

As with the other Nordic nations, the end of the Cold War saw drastic cuts in Sweden's defence spending which are proving difficult to reverse – and to make the case for doing so.[60] With the global strategic balance more unstable than in the Cold War, does the Swedish Government – like that of many nations – need to find the conviction to ask its public if now actually is the time to increase defence spending?

Swedish defence spending has been reduced since the end of the Cold War from 3% of the Gross Domestic Product (GDP) to 1.3% today. Despite an apparent surplus in public sector finances on the one hand, and notwithstanding the potential implications of the current global financial crisis on the other, Sweden is facing defence budget reductions of around 10% having already suffered two

[60] Granholm. 'Centrifugal Forces?' p.52.

rounds of significant cuts in recent times.[61] From a defence budget of around SEK 40 billion each year, or just over £GBP 3 billion, around half is spent on unit operations, and around half on Research and Development (R&D) and equipment. Recent reports suggest that any cuts will focus on infrastructure and support, with priority given to funding current operations. This is a very risky approach to take both for the immediate future – given Russia's resurgence – and for the longer term future, given Sweden's desire to construct capabilities which can be adaptable against a greater range of scenarios. Such adaptability itself only comes at a price. Moreover, given that the Swedish Government chooses to exercise its military muscles in support of policy – and not all nations, in the EU or elsewhere, do so – Sweden will need to better assess and understand the cost of its commitments.

International Co-operation

In the current global defence and security context, international approaches to security challenges often seem to have greater appeal that national ones – despite the evident difficulties in pulling together international political and military positions. As Sweden looks further beyond its borders in defining its security requirements, international co-operation will become ever more important.

The different perspectives of the Nordic states concerning the relative merits of both NATO and the EU suggest a degree of crossed postures and purposes.[62] All four nations also appear to have been moving in different directions in force structure terms.[63] Yet Baltic states are making strong efforts to ensure co-ordination and co-operation and to share responsibility. Growing political and military co-operation will improve capacity for regional security, for example providing greater maritime shared situational awareness and surveillance cover.[64] This also would meet United States' emphasis on building Global Maritime Partnerships. Sweden is developing closer relations with the other Nordic states, notably Finland. Beyond the Baltic, the RSwN has growing links with the Royal Singaporean and Royal Netherlands navies, the German Navy and the Royal Navy. One crucial question is whether budget pressures will drive further co-

[61] Supreme Commander, General Håkan Syrén, cited in Rosamond. 'Fleet Review – Sweden'.

[62] Denmark is both a NATO and an EU member. Norway is a member of NATO, but not of the EU. Finland and Sweden are not NATO members, but are EU members. Sweden's policy towards NATO is now, of course, no longer one of neutrality but of military non-alignment. Sweden finds itself working ever more closely with NATO.

[63] Granholm. 'Centrifugal Forces?' p.52.

[64] For example, Finland and Sweden have the Sea Surveillance Co-operation Initiative (in which Denmark, Iceland and Norway are observers).

operation for the RSwN, particularly with fellow EU states. However, Swedish concerns about the political and military capacity of multi-national organisations will see the RSwN continue to require core national capabilities.

Defence Industry

Budget challenges may also affect the Swedish defence industry's ability to produce sovereign capability, as reductions impact upon its research, design and build skills – assuming, of course, that such sovereign capability is a national requirement.[65] A down-sizing national defence industry in Sweden, one which is trying to retain a degree of autonomy, often is resistant to change. Yet, the stakeholders in the Swedish naval industrial base will need to find ways of improving process. The time taken currently to deliver programmes – with all the delays and changes incurred – only swallows up large parts of what is a relatively small procurement budget. In some countries, too, defence inflation is running as high as 10% per annum.[66]

Sea Blindness

Sea blindness is a vogue term in the UK. It means, effectively, that key elements of society are blind – or blinded – to the national importance of the use of the sea. Arguably, this is the most critical issue facing the RSwN and many other navies.[67]

While this is a term much used in current naval debates, as Eric Grove argues in his paper, debating vigorously and publicly the issue of sea blindness may risk politicians and public alike thinking that a navy is inconsequential and not worth

[65] The acquisition of Kockums by HDW is interesting here, given reports that the German Type 214 may emerge as one of the preferred designs for the new RSwN SSK.

[66] Again, the UK experience with regard to its naval industrial base can provide some interesting lessons. A lack of funding and orders has resulted in the industrial base having excess capacity. Under Government direction, the ship-building industry has been rationalizing itself, with the new joint venture of BAE SYSTEMS and VT Group, BVT Surface Fleet Solutions, operating almost as a national supplier in terms of surface ship building. Yet in the Treasury, there remains concern that such consolidation delivers less value for money than competition. The UK experience also highlights the difficulties in multi-national ship-building programmes: the UK withdrew from the tri-nation Common New Generation Frigate (CNGF), or Horizon, programme in the mid-1990s; and the UK and France more recently had been co-operating on the design and – possibly, in due course – build of their future carriers before Paris's recent decision to defer further work on the French carrier programme indefinitely.

[67] For further discussion on this issue, see Lee Willett, 'British Defence and Security Policy: the Maritime Contribution'. RUSI *Occasional Paper*, June 2008. London: RUSI.

fighting for.[68] Also, part of the problem may stem from the fact that explaining the importance of the use of the sea in terms which are generally naval in context may not make it easy for the general public to understand the issues. The use of the sea clearly is fundamental to the way the world works, but explaining this to politicians and public alike is challenging in the extreme.

The concept of expeditionary operations is, by definition, a maritime concept, and *should* thus be a concept which mandates the development of a strong navy. Admiral Grenstad firmly believes that the RSwN is precisely the kind of rapid reaction force required by the country's politicians. However, he argues too that the RSwN needs to be better at explaining to politicians and public alike why Sweden needs a navy, as many people 'seem to have little idea.'[69] Political leaders are focused, in military terms, on counter-terrorism and elective land operations, and on defence programmes which do not cost relatively large amounts of money. People live on land, travel by air, and think that what they need arrives either by air of by internet. The deterrent effect of naval forces deployed at sea often means that navies are successful in doing their job when nothing happens. Educating politicians and people alike that the world continues to move by and large by sea – and, in fact, that the global maritime trading network is perhaps a more tangible and realistic representation of the worldwide web – is critical. More importantly, protecting that network is an obligation. Yet it is extremely difficult to make this case. As a result, will the RSwN have the political support and financial capacity to deliver the kind of navy to meet its aims?

Conclusion: Why, Not What

Increasing its area of geostrategic interest, its role and the capability of its Navy will give Sweden greater political influence. As the world changes, with the international context becoming more complex and unstable, and as the use of the sea becomes ever more important, the Swedish Government, political leadership and people will need to define what kind of nation they wish to be, *why* they need a navy, and only then what kind of navy is required - and what it is prepared to pay for the securities it provides.

For the RSwN itself, despite significant leaps in each of its primary capabilities, there have been problems with several programmes, numbers are decreasing and a new formula for balancing capability and affordability is required. There is a need to think hard about future threats, policies, budgets, postures, concepts and

[68] Eric Grove. 'The Royal Navy Today; Not As Bad As Some Say', REF.
[69] Grenstad: 'The Visby-Class Corvette'; 'Visby: the Concept for the Littoral Zone'.

capabilities – in the latter case *why* (i.e. for what strategic purposes) the RSwN needs them. The RSwN also must nurture changing thinking and changing mind-sets, both within the public, political and defence ministry circles – but also within itself. The fact that the Visbys have Windows NT software and a wooden steering wheel shows that old habits die hard.

We No longer Need a Sports Car, We Need a Station Wagon – Conceptual Challenges and Issues for the Royal Swedish Navy

Robert Dalsjö

I am speaking here today in my personal capacity as an analyst of politico-military affairs.[70] That is probably in the best interests of this conference, as Swedish defence policy is currently under review, and a bill outlining a major defence reform is to be presented to Parliament in February-March. Thus, any formal official statement on defence policy at this point in time would be either bland, or soon overtaken by events, or both. Although nothing is certain in politics, it is possible to divine much of the likely substance of the coming bill, based on policy statements from the current coalition government, speeches and articles by the minister for defence and the state secretary, and on the unanimous report of the Defence Commission, presented in June this year.[71] I will mention this report on a number of occasions, as it is significant, both because it represents a consensus among all parties in Parliament, and because it calls for radical changes in many aspects of our defence. At this point in the process, you do not need to be a weatherman to tell which way the wind is blowing. And there are indications that there will be a major change in defence policy, some talk of the most radical reform since the introduction of conscription in 1901.

The government has already announced that it wants to intensify international military cooperation in different arenas, such as the EU, PfP, the UN, and the Nordic group. There is to be an increased emphasis on international peace-support and crisis-management operations, and the budget for those is being doubled, funds are to be shifted from procurement to operations, and within procurement there is to be a shift from development and leading-edge technology to buying proven products off the shelf. Moreover, the government wants a much clearer emphasis on military capability available here and now, not in a distant future, and it wants a one-force structure, with the same units available for na-

[70] The author is a Senior Analyst with the Division for Defence Analysis, Swedish Defence Research Agency, FOI. The views expressed here are the author's own and do not necessarily correspond with those of the FOI or of the Swedish government.

[71] Försvar i användning, Ds 2008:48 (Stockholm: Försvarsdepartementet, 2008).

tional and international tasks. A logical consequence of this is a change to an all-volunteer force and an end to conscription as the means of manning the forces.

After the end of the Cold War, most of the rest of Europe abandoned conscription and a mobilisation-based defence, but Sweden stuck with it. This has left us in a bind, as units manned by conscripts cannot be used for anything else than defence of national territory, hardly at the top of the agenda today. This means that we have had to organise separate temporary volunteer units for international tasks, units which often have not had enough training together to be units in the proper sense of the word, and which are disbanded after their return from overseas service. Moreover, the units manned by reservists to be mobilised have in later years existed more on paper than in reality, and have had ridiculously long mobilisation times, which means that our capability for handling any national emergencies has been poor. Thus, we have been badly served both for national and international tasks.

The report of the Defence Commission has finally drawn the conclusion that the present set-up is both unworkable and inefficient, and it has advocated a move to an all-volunteer force, consisting of a mix of standing units manned by full-time soldiers, sailors and airmen, and units manned by part-time personnel with readiness contracts (akin to the US National Guard or Reserves). If enacted, this reform would have tremendous positive consequences – some would say revolutionary – for the armed forces. The effects will be greatest for the Army, which for half a century has mostly been a training establishment. Having real fully-trained units available for operations and for exercises will open up new perspectives, and present problems and opportunities most army officers did not even know existed. But the effects will of course be considerable also for the Navy and for the Air Force. No longer will we have to shed sailors and soldiers, some with specialist skills, at the point where they are fully trained. No longer will the readiness and availability of our units be dependent on the training calendars, which allow for only a couple of months per annum of fully available units. Finally we can start to build the unit cohesion and mutual understanding which is so important in the face of danger. And we will have units available at short notice, for operations overseas or at home.

Another important step forward in policy is that Sweden no longer strives to seek hard security separately and nationally, but that we strive to advance and protect our interests and values together with others, also in the military field. As you know, Sweden has a long history of staying on the sidelines, in the hope of avoiding the maelstroms of world events. After the Napoleonic wars, we took what some call “an early retirement from great-power politics”, and in the post-World War II war era we made neutrality and a lack of attachments concerning

hard security into something of a national ideology, almost even a religion. Self-sufficiency was declared as the norm, while military cooperation with the West was seen as abhorrent. Neutrality, modernity and the welfare state became three of the main pillars of Swedes' self-perception in the late 20th century. As we now know, Sweden's neutrality policy during the Cold War was less than pristine, and preparations and contacts for military cooperation with the West in case of war had been undertaken in great secrecy. Indeed, the rather strong conventional defence of Sweden was based on the hidden premise that we were covered by the US nuclear umbrella and that the West would come to our help if we were attacked. These hopes were not groundless, as a strong Sweden that could hold against an attack was an asset to the West, and Sweden provided useful intelligence already in peacetime.[72]

The old formula and label of neutrality policy was replaced by "military non-alignment" already in 1992, following the fall of the Soviet Union and our declared intent to join the EU. Still, the reflexes of neutrality were so ingrained that it has taken a long time for them to wear off. Step by step, the barriers set by the old policy and the old mind-set have been removed, and Sweden's security and defence policies have become more internationalist and cooperative, with Sweden very active both in the PfP and in EU military cooperation. Right now, we are in a situation where anything short of binding security guarantees is potentially possible.

Last autumn, the Swedish and Norwegian Chiefs of Defence published a report advocating deepened and intensified cooperation between the armed forces of the two countries, in order to raise both efficiency and effectiveness. The report was very well received in many quarters and it created a momentum which soon included Finland, potentially also all the Nordic states. A much more detailed follow-up report was delivered this summer, and the matter is currently under review in both Oslo and Stockholm. Nothing is decided yet, and many tricky issues remain to solve, but as there is good will on both sides, the potential looks very promising.

During the past year, both the Defence Commission and the Cabinet have taken the step to declare that we seek security "in cooperation with others" and they have furthermore issued a declaration of solidarity, stating that "…Sweden will not remain passive should another EU Member State or Nordic country be struck by disaster or attack. By the same token, we expect these countries to do the same if a similar crisis were to befall Sweden." In its latest report, the Defence

[72] Cf. Robert Dalsjö, Life-Line Lost. The Rise and Fall of 'Neutral' Sweden's Secret Reserve Option of Wartime Help from the West (Stockholm: Santérus Academic Press, 2006).

Commission took this matter one step further, adding that this means that Sweden should have the capability both to receive and to give military assistance. This may not be a great step for mankind, but it is a giant leap for Swedish declaratory policy, as those who remember the old days understand.

It would not be an overstatement to say that we are not yet on a firm footing concerning the concrete meaning and deeper implications of these developments. Sweden still stays short of any binding commitments, and any actual call on whether and how to show solidarity in action would still be a sovereign decision. Sceptics may recall that Sweden has a history of being something of a fair-weather friend to its Nordic brethren, first holding out the prospect of assistance, but then refusing to deliver when the chips were down. When push came to shove, the ship of Swedish solidarity always floundered on the twin shoals of Swedish "peace-egotism" and *Realpolitik*. However, the ties being bound today will most probably prove much stronger than those tied in e.g. the late 1930s. It is not just that there is more of a political momentum now for integration and cooperation. Cross-border integration in all kinds of spheres, not just military, has also made it much more difficult today to simply stand aside if a neighbour is threatened, than was the case in 1939 and 1940. EU and Nato/PfP-integration means that the purely national option will not be as readily available as it was in olden days.

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So, what does all this mean for the future of Sweden's Navy and Amphibious Corps?

In order to chart a course for the future, we first need to know where we are and how we came there.

Since the late 1950s, the primary task of the Swedish Navy was defensive Sea Denial against a sea-borne invasion across the Baltic Sea. Based on what later proved to be an over-estimate of the capabilities of Soviet land-based airpower and of the salience of tactical nuclear weapons, Sweden decided that destroyer-size ships were too vulnerable in the Baltic and opted for a "light navy" consisting mainly of submarines and attack craft, reminiscent of the *jeune ecôle* of the late 19th century. The navy was to operate like a an "air force on the water", staying close to the nautic base-line and sallying out to strike at the Soviet invasion fleet as it came close to our coast. The destroyers and frigates were phased out as they reached the end of their operational life, and with them went the remains of

the capability to protect shipping in the open sea. It was assumed that if we could handle the most demanding task – defeating an invasion – we could also handle lesser tasks. This assumption turned out to be disastrously wrong.

Starting in 1980, Sweden was beset by a series of submarine intrusions, where the submarines no longer fled as our units made contact. Ironically, the last destroyer was decommissioned as a hunt for intruding submarines started in the naval base at Berga in 1982. Its ASW-capabilities would be sorely missed in the years to come, which were marked by a series of underwater intrusions, which the Swedish naval forces struggled to come to grips with. It turned out that a capability for anti-invasion defence did not automatically translate into a capability to handle in-shore ASW. Thus the years of the 1980s, for the Swedish naval forces, were mostly about urgently rebuilding a capability for ASW, especially in shallow waters. A salutary effect of this was that the Navy shed its previous office-like culture, and became operational and warlike. Dealing with the submarine problem in the 1980s was a formative experience for many naval officers, and in a sense, for the whole of the naval forces.

And – alas, I would say – it still seems to remain so. During the 1990s, the Swedish Army was transformed by the reality of going in harms way in the Balkans and similar places, inducing not only an operational focus, but also an international one, in a tough environment. But for reasons not of their own fault, the Swedish Navy and Air Force missed that boat. Until 2006, the Swedish navy did not do a single “live” international operation, which included a risk of being shot at. I will not say anything derogatory about demining operations in the Baltic states, or participation in Nato exercises, they have been very useful. But they seem not yet to have had the power and the intensity needed to de-bunk the mind-set, concepts and the frame of reference formed by life in the light navy sortie defence, and by the ASW-campaign of the 1980s.

For half a century now, the Swedish Navy has not taken delivery of any surface combatant – excluding mine-layers – with a displacement over 500 tons. Since the 1980s, nothing has provided an impetus to change the dominant paradigm within the Navy. But the world, and Sweden’s role in it, has changed profoundly since then, leading to entirely new needs for capabilities, if the naval forces are to be useful as instruments of Swedish security policy.

Some conceptual work has been done in the last decade, and there has been much talk about finding a niche in the “extreme littorals”, in which Sweden supposedly has “unique capabilities”. And our representatives have basked in praise at international exercises and conferences, perhaps without always asking themselves whether this praise really was sincere or just professional politeness. However, much of this conceptual work now seems like an effort to fit old tools for new

tasks. At least three relevant aspects have been overlooked. First, our capabilities are far from unique; the German *Bundesmarine* also markets itself as an expert in operating close to shore, and has landed a Nato Centre of Excellence for Shallow and Confined Waters in Kiel. Second, operating close to the shore on the Horn of Africa, with the whole Indian Ocean weighing in on you, is very different from operating close to the shore at home in the Baltic. And third, choosing a narrow niche means spending most games on the bench.

Here, I would like to add a very important exception. Our submarines, and our submariners, have really proven themselves top-notch, world class, no ifs or buts. It is not only about the games played by the Gotland and its crews off San Diego, but also about the adventures of the Halland in the Mediterranean and the Atlantic. Here we are talking about exercises and operations going as far as one can in the silent world, without going into a live conflict.

But submarines apart, we have a double legacy problem, one of concepts, as well as one of force structure. The combatant craft – I question whether anything below 1 000 tons should be called a ship – we now have in service are all designed for operations in the Baltic under late Cold War conditions. Much the same applies to the Amphibious Corps, which was designed, organised and equipped for a mobile defence of our own coastline, not for the classic role of marines, attacking land from the sea.

That status quo, though lamentable, is understandable, given the circumstances. What is more problematic is that the new additions to the fleet that we have long been waiting for have been shaped by the old paradigm. The Visby class corvettes are technically very impressive and innovative, and their stealthy shape has an eye-catching quality, which no doubt draws crowds at naval boat shows. Designing them and building them are feats of engineering. However, Sweden's needs and requirements for naval forces have evolved a lot since Visby was originally conceived. The combination of extreme stealth to avoid a mighty adversary, SSMs, ASW, mine warfare, and operations close to home, are no longer at the top of the list.

So the Swedish Navy is now in the naval equivalent of a blind alley, a kind of place for which our American friends have a colourful expression. Politically, one can already see the buzzards on the horizon and the shark-fins approaching. Are we stuck in this mess until the end comes? Of course not! Is it difficult to find a way out to where there is ample water under the keel? Not really.

If Sweden's naval forces are to have a future they have to be seen as useful instruments for security policy. In order to do this, they need to be able to make contributions where the centre of international political-naval attention is, and

that is far beyond home waters. For centuries, trade-dependent Sweden has benefited from the fact that first the Royal Navy, and then the U.S. Navy kept the trade lanes open and safe. Now, we can no longer sit back and count on others doing all of the job for us. The resources of the U.S. Navy are stretched, and the call for international partners to contribute is there. Contributing to international efforts patrolling the high seas and the sea lanes, protecting legitimate traffic and interdicting contraband and pirates, supporting operations on land, helping to manage flare-ups of crisis, and other tasks along those lines, is what would earn the Navy and Amphibs credit and praise. In terms of naval strategy we are primarily talking about the Assertion of Sea Control and the Projection of Power Ashore. These tasks, and the environments in which they are to be solved, calls for qualities in ships very different from the ones we have been building for the last half-century. Among these are:

- **endurance**, the ability to operate at sea for an extended time without replenishment or service;
- **sea-keeping**, the ability to operate in or transit rough waters while maintaining not only safety, but also operational effectiveness;
- **versatility**, the ability to solve several different tasks in differing circumstances;
- **adaptability**, the ability to reconfigure the ship's capabilities in order to meet changing circumstances;
- **air defence**, not only for self-defence;
- **interoperability**, including C^3I and replenishment at sea;
- **survivability**, being able to take a hit from a RPG or even a SSM, without undue casualties and while remaining not only afloat but also able to operate;
- **crew comfort**, quite important during extended deployments, especially with an all-volunteer crew;
- **free spaces**, for additional elements, functions or equipment;
- and at least one medium-sized **embarked helicopter**.

These requirements all – each on their own as well as together – translate into a need for ships, not boats. Yes, we sent our small corvettes down to the Mediterranean to patrol off Lebanon, and I understand that it was considered a success. And yes, we are looking at deploying the same kinds of craft off Somalia for anti-piracy operations. And yes, the Germans have sent boats of similar size as ours to Lebanon. But I also see that the crews of the *Schnellboote* Hermelin and Dachs are currently bracing themselves for crossing the Bay of Biscay on their way to the Mediterranean. You can cross the Atlantic in a fifteen foot sailboat as well, but is it a good idea? Swedish plans for deployment to the Horn of Africa consider sending the corvettes down to the area of operations as cargo on a heavy

lift ship. I think most of us can recall the picture of the USS Cole on a heavy lifter, being brought home after being badly hit in Aden. As I see it, a captain of a man o'war out to feel a sense of disgrace if his ship was carried as cargo by a merchantman, especially so if the naval ship was not damaged.

If we are to become regular contributors to international naval missions we must have ships than can transit and operate under same conditions as the others. We can't come with units which either slows the entire force down, or which become stragglers, de facto being a drain rather than a contribution to operational effectiveness. And why on earth should we run counter to the conclusions of navies with decades, if not centuries, of experience of operating in the waters we are talking about, such as the British, French, Americans and Dutch?

One doesn't have to be a great naval strategist or a technological rocket scientist to see what needs to be done. To begin with, stop trying to be so different, and look at what the neighbours are doing. Almost all the countries of Europe with a seacoast, except the smallest ones, are buying frigates or similar patrol ships. They can hardly be all wrong.

Denmark provides an interesting example, in several respects. In a short time, they have turned their defence around from a territorial to an expeditionary focus. On the naval side, they are expanding their capability to contribute to blue-water operations. The new 6 000-ton flexible support ship Absalon is currently leading Task Force 150 off the Horn of Africa, and has prevented several attacks by pirates. She was laid down in 2003 and she and her sister ship were delivered and operational in 2007/2008, fully equipped and within a budget of slightly more than 3 billion Swedish kronor for both ships. The Absalon does not only have lots of space for equipment and people, making it a very flexible platform for various tasks. But it also carries all of the weapons system and sensors one would associate with a frigate, like a 5-inch gun, Harpoon SSMs, Evolved Sea Sparrow SAMs, ASW torpedoes, and two embarked medium helicopters. In fact, one might call her a station wagon version of a frigate. The Danes are now going on with building three conventional frigates, due to be operational in 2012, with an overall price tag of slightly less than 6 billion Swedish kronor. That makes less than 2 billion Swedish kronor per ship, fully equipped.

How do the Danes get so much for so little, and so quickly? Their defence budget is less than 65% of ours, still they are able to field more forces. Parts of the answer are not taking any technological risks, building by conventional techniques to commercial standards, using proven component systems, designing to cost, accepting "good enough" rather than striving for perfection, a business-like approach, and a competent commercial ship-building industry. One example of practical cost-reduction methods is that the new frigates will use the same type of

hull and propulsion system as the Absalon. Another is accepting a modest top speed of 24 knots for Absalon and 28 knots for the frigates. With embarked helicopters, one seldom needs the capability for sprint speeds.

So what should we do? According to current plans the next surface ship for the Swedish Navy should be a combat support ship called the L 10. That may be a good idea, or not, depending on how its configured and on what it will cost. If the ship's main raison d'être is to act as a tender for our small corvettes and as a vehicle for getting the Amphibs into action overseas, I think we will be seriously wrong, and we won't get out of the mess we are in. A combat support ship should not be configured primarily as a vehicle to make up for the shortcomings of our current naval forces, but should be the first step into the future, and it must add capabilities. To be really useful, such a ship must be a multi-purpose asset to the entire armed forces, not just the naval forces, for example by being a platform for off-shore support for forces on the ground, such as housing a headquarters or staff, an intelligence unit or a hospital, being a floating base for special forces, providing fire support, etc. Moreover, it must provide useful capabilities which can not readily be leased or borrowed from elsewhere. Transport ships can normally be chartered or leased when needed, bunker support most probably chartered or provided by friendly nations, and if a well-deck for the combat boats on occasion is *really* needed, there are a number of friendly countries with that capacity.

Before going ahead with the support-ship project it might be wise to take a proper look at frigates as an alternative, or patrol ships of similar characteristics. The Danish frigate project indicates that such ships can be made affordable, even for countries with modest budgets. Some will certainly say, "Bah, frigates, everyone else has frigates, we should do something different." But there is probably a reason why frigates are the workhorses of most serious navies, and why so many countries are buying them now. A frigate may seldom be the optimal and perfect fit for operational requirements, but it is normally so versatile that it can always make a useful contribution. In this context it is better to be roughly right, than precisely wrong. Moreover, the Absalon example shows that it is possible to combine the capabilities of a frigate with those of a support ship in one hull, what I would like to call a "station wagon frigate". It would seem silly, not least in these days of Nordic cooperation, not to look closely at that option.

If we go the way of larger ships capable of operating in the high seas, it does not mean that we will lack capabilities for acting closer to home. First of all, ocean-going ships could prove very useful also in the Baltic, e.g. through their capability for enduring operations of naval presence, if need be. Secondly, the new ships will not be the whole navy. We will have the legacy corvettes for quite some

time yet, and the submarines will continue to be a very useful complement to the surface units, both for near and far tasks. Their stealthy nature means that even if the bulk of the surface navy is away overseas, any opponent must count on us having an unseen presence in home waters. The Amphibious Corps, in its current configuration, illustrates the dangers of being too narrowly niched. To be useful and employable in the current and future environment, the corps needs to get out of the brown water role emphasising anti-ship capabilities, and become a classic marine force for the projection of power ashore, from the sea, but on land. The recent successful deployment to Chad is a step in the right direction. Special forces capabilities will continue to be useful, both at home and overseas.

Whichever path is chosen I feel rather sure that it should and will be built on proven, conventional and affordable technology, rather than on revolutionary design. The U.S. Navy has experienced serious cost overruns and delays in its hi-tech Littoral Combat Ship programme. It was recently declared that the U.S. Navy is stopping the technologically advanced Zumwalt destroyer programme after just three ships, in favour of building more of the more conventional and affordable Arleigh Burke-class destroyers. If even the U.S. Navy can not, then we can most surely no longer afford the risks, delay and cost overruns of trying to lead the development of technology. Although some in the system grumble, the Defence Commission and the Cabinet have been clear on the point that off-the shelf procurement of proven designs should be the default option, and that own development should be the last resort.

Finally, I would like to end on an upbeat note. 20 years ago the Swedish Army mainly consisted of straight-leg infantry, riding in trucks or even pulled by agri-cultural tractors, with no protection against shrapnel. The officer corps of the Army was dominated by men from these units, their world-view was shaped by their perception of reality, and they exerted a very strong blocking influence against a transfer to a mechanised army. The tanks they measured themselves against were long since obsolete, their assessment of the threat from air power and artillery way off.

Then came the Gulf War and the “road of death” to Basra, live tests in Sweden of modern tanks such as the Leopard, the Abrams, and the T-80, and a large-scale buy of used armoured personnel carriers from the East German army. When the Army officers had seen what modern tanks, artillery and air power could do, and they had got used to have their troops riding protected in APC:s, there was no way of getting them back in the trucks. They had accepted the realities of modern day warfare, and went mechanised. In a similar manner I believe, and hope, that once we have got the Royal Swedish Navy into real ships and out on the oceans,

operating with others in task forces and task groups, there will be no way of getting it back into boats again.

The Royal Navy Today; Not as Bad As Some Say?

Eric Grove

Various sources have been proclaiming the decline and even death of the Royal Navy as it attempts to navigate the shoals of early Twenty First Century British defence policy. Retired Vice Admiral Jeremy Blackham and Professor Gwyn Prins have been particularly vocal with two related articles in 2007, one in RUSI Journal in April and the other in US Naval Institute Proceedings in October. These argued that the Royal Navy lacked 'a strategy' and was 'on the brink' of losing its capacity 'to be a decisive force across the globe'. The authors used figures that concentrated on frigate and destroyer numbers and lack of construction of these types to justify their Cassandra like warnings.

The author of this paper felt forced to write a strong rebuttal of the Proceedings article which was particularly misleading, given an audience that was less well informed about the true nature of the situation. Far from not having a strategy the Royal Navy has demonstrated a clear re-orientation towards power projection in line with the Government's expeditionary and interventionist priorities. Rather than build frigates and destroyers Britain has spent the early 2000s constructing an impressive new squadron of amphibious ships, two 18,500 ton amphibious transport docks (LPDs) Albion and Bulwark and four 16,160 ton 'Bay' class dock landing ships (LSDs) whose capability is perhaps hidden a little by their being manned by the Royal Fleet Auxiliary rather than the Royal Navy as such (the latter has cast covetous eyes on these capital assets). Adding these to the 22,000 ton amphibious transport helicopter carrier (LPH) HMS Ocean, that the Blair Administration inherited from the Major Government (that had been rather reluctant to build it) , the United Kingdom is thus able to deploy a 'Littoral Manoeuvre Group' that stands comparison with that of any power outside the USA. The Commando Brigade has also been reinforced new equipment and with an extra Army battalion to further strengthen its capacity to project force from the sea.

Beside the Littoral Manoeuvre Group is the carrier strike group based around the two existing carriers Illustrious and Ark Royal and the 45 Harrier GR7s and GR9s of Joint Force Harrier. Recently Ark Royal has been covering for Ocean when the latter was in refit but Illustrious was able to maintain the capability, even when the purely Naval component of the Joint Force, the Naval Strike Wing, was deployed ashore in Afghanistan. It has to be admitted that at senior

levels in the RAF there are still problems of adjustment to the new realities of such a high proportion of Britain's planned force level in offensive support aircraft being carrier based (over fifty per cent) and inter service battles continue. Nevertheless the Government keeps reiterating its commitment to the carrier as the centrepiece of its expeditionary strategy in a world where in Secretary of State's George Robertson words in his introduction to its seminal 1998 Strategic Defence Review 'we must be prepared to go to the crisis, rather than have the crisis come to us.'

The main fruit of this commitment is, of course, the plan to replace the current 20,000 ton ships with two new 65,000 ton aircraft carriers, HMS Queen Elizabeth and HMS Prince of Wales due in 2014 and 2016. In July 2008 contracts to construct the ships were signed between the Ministry of Defence and an amended Aircraft Carrier Alliance that includes a new Joint Venture of BAE Systems and the VT Group. Called BVT Surface Fleet this was a major fruit of the future carrier (CVF) programme in itself as the project had been used to encourage this reorganisation of surface warship building as part of the Government's Defence Industrial Strategy. BVT's yards at Govan and Portsmouth will build a section each as will BAE's yard at Barrow (although this section might get transferred to another yard as Barrow is occupied with submarines – see below). The whole ship will be stuck together and a bow provided by Babcock Marine in Rosyth.

Building the ship in Britain was always a fundamental principle of the programme and spreading the work around the United Kingdom quite literally increases the political constituency for the carrier. The involvement of Scotland is a matter of considerable current domestic political importance given the debate on the future of the Union. It is also noteworthy that Rosyth is next to the Dunfermline parliamentary constituency of Former Chancellor of the Exchequer and current Prime Minister Gordon Brown. France also bought into the programme and gave useful input to the design. She was going to build a near copy as her second carrier but this has been deferred as a result of the new French Defence White Paper.

On current plans the main aircraft to fly from the carrier will be the American Lightning 2 Joint Strike Fighter in its F-35B short take off vertical landing (STOVL) form. The Royal Navy's aviators would have preferred the longer ranged F-35C being built for US Navy carriers for operation with catapults and arrester gear, 'cats and traps'. The CVF design as part of its 'future proofing' can be readily modified to this form of operation but the RAF apparently insisted that the STOVL option be followed. In any case delays to the F-35B mean that the first CVF, Queen Elizabeth, will, in all likelihood, go to sea with Harriers. If F-

35 does get cancelled there are fall backs available, most of which have to involve ‘cats and traps’.

The lack of ‘cats and traps’ on current plans means that the best option for the MASC (Maritime Airborne Surveillance and Control) aircraft to support the E-2 Hawkeye in its latest variant will not be available. Rotary winged options will have to be used, probably, in the first instance, the existing Sea King ASAC7 whose advanced radar can be transferred to newer airframes as required. (This was done twice with the American AEW radars delivered to Britain in the 1950s).

In any case the primary role of the carriers is offensive rather than defensive. Much heat was generated when it was announced that the Sea Harrier FA-2 was to be phased out of the Joint Force leaving it just with a common pool of GRs. The FA-2 was indeed a very fine air to air platform but it was not good at bombing in hot climates and could not bring back valuable munitions because of weight problems. The risk was taken to do without its air to air capabilities given the nature of expected operations. The GR-7/9 does provide some limited capability in this regard but the bombing role is paramount.

The natural tendency to protect the CVF programme which will give the Royal navy its biggest warships ever has already made the navy perhaps a little more prepared than it might otherwise have been to acquiesce in reductions in its fleet of frigates and destroyers. There is no direct connection between the CVF programme and the numbers of its potential British escorts as the carrier is not considered to be primarily a national asset. It is intended to give the United Kingdom maximum leverage in the plans of a coalition Joint Force Air Component Commander (JFACC) by its generation of about 100 stealthy sorties in a 24 hour period. It is expected that it will be part of a multinational task force. Putting a set number of escort vessels for each ship would have priced the programme out of the market.

The Blair Government inherited the Major Government’s ‘Options for Change’ total of 35 reduced from the 49 (‘about 50’) of 1990. The Strategic Defence Review reduced this total marginally to 32 but the further policy revisions associated with the 2003-4 White Papers and the contemporary Comprehensive Spending Review brought this down to 25 by 2006, eight Type 42 destroyers, four Batch 3 Type 22 frigates and thirteen Type 23 frigates. This remains the official total for 2008 with 22 counted as operational and three in refit. Despite much publicity of ‘mothballed’ ships the first of the 25 to go into ‘extended readiness’ will be the Type 42 HMS Exeter at the end of this year.

The Type 42s are being replaced by the highly capable and large Type 45 ‘destroyers’ (they are more like cruisers), the first of which HMS Daring is running her trials, to be joined by Dauntless later in the year. Daring is due to enter service in 2009 by the end of which all six of the hulls ordered should be launched. It was hoped that eight would be built but this now seems most unlikely. One has to be careful in accepting that new technology can make up for hull numbers but the PAAMS anti-air warfare system with its Aster missiles will be a quantum leap in capability over the Sea Dart equipped Type 42s with their two channels of fire. Daring probably has a tracking and engagement capability equivalent to the entire Type 42 fleet!

What we seem to be moving towards is a fleet of about fourteen ‘first rate’ surface combatants, six anti-air warfare and eight anti-submarine. The latter are currently made up of the eight Type 23s being equipped with the 2087 active low frequency sonar and the large Merlin helicopter. The balance of the FF/DD force might be made up of 8-10 less well equipped assets capable of presence, stabilisation and constabulary duties. Recently one or two older Type 42s have been running around without missile systems. At first sight this seems odd but for the duties these ships are likely to undertake radar, guns, helicopter, boats and a properly trained ships company are adequate systems.

Numbers have a quality of their own, especially given the addition of the UK Maritime Security role to the roles of Maritime Force Projection, Theatre Entry and Flexible Global Reach in the latest iteration of the Future Maritime Operational Concept. There are legitimate concerns about the numbers of assets required, although presence can be maintained by ships other than traditional major surface combatants. Major amphibious ships with their docks, flight decks and helicopter facilities may actually be better at lower end tasks than sophisticated destroyers or frigates.

In its forward planning the Royal Navy has finally grasped the nettle that not all its surface combatants can be of the highest sophistication. In its ‘Pathfinder’ study project on a ‘Sustained Surface Combatant Capability’ (S2C2) it was projected that the future surface combatant (FSC) come in three types, a sophisticated C1 to replace the fully combatant frigates, a less well equipped C2 ‘stabilisation combatant’ using a similar hull to replace the other frigates and an interesting and innovative C3 modular vessel to carry out a variety of roles, notably expeditionary mine countermeasures.

This latter vessel is seen as a replacement for many of the large flotilla of smaller vessels that bulk the Royal navy’s holdings of surface ships up to 74 assets. There are sixteen small mine countermeasures vessels. While some of the most capable in the world they were built for coastal operations in European waters, are

awkward to deploy at a distance and require host nation support in expeditionary operations (although their performance in these has been exemplary). There are four River Class offshore patrol vessels run under a leasing contract by VT Shipbuilding used for fishery protection and Falklands Patrol, two small patrol craft Sabre and Scimitar at Gibraltar and sixteen slower but larger patrol vessels, two based operationally at Cyprus and the rest used for training around the UK coast, largely by University Royal Naval Units. There are five survey ships (including the 13,500 ton HMS Scott) and, last but not least, the ice patrol ship Endurance maintaining presence in the deepest southern regions.

The Royal Navy per se is not the only organisation involved in the UK's maritime force projection. Increasingly integrated with the Navy proper and under the Fleet command is the civilian manned Royal Fleet Auxiliary. This consists, as stated above of four highly capable LSDs, an aviation training ship (that doubles on operations as casualty receiving ship), a forward repair ship, four large fleet tankers, two small fleet tankers, two support tankers and two large fleet replenishment ships. The support and small fleet tankers are old and need early replacement. The Military Afloat Reach and Sustainability (MARS) programme has new fleet tankers as an early priority and the first of six of these overseas built ships may appear by 2011. Like the existing six larger fleet supply ships these should be able with their aviation assets to maintain presence in certain areas as required on their own.

So far we have concentrated on surface and air assets but it is arguable that the main striking force of the Royal Navy currently resides beneath the waves. The SDR reduced the nuclear powered attack submarine fleet from twelve to ten, although it took until 2006 to get down to that figure. By then the 2003-4 review had reduced planned numbers still further to eight, where the force stands today after the withdrawal of HMS Superb in 2008. That leaves one 'S' class boat at Faslane , HMS Sceptre, and seven 'Trafalgars' all based at Devonport. All eight are equipped with 1500 km range Tomahawk land attack missiles as well as Spearfish high performance torpedoes. The new 'Astute' class, larger and with more weapons capacity is, after long delays, about to enter service. Three more are being built at Barrow, Ambush, Artful and Audacious and it remains to be seen how many in total of the new class will be commissioned. The most likely total is seven as the improved technology of the design will allow greater availability and an equivalent capability to 8-9 boats of earlier design. This will still be a formidable force, ahead of France, China and India.

The decision has also been taken slightly to extend the lives of the Trident submarines of the Vanguard class and then replace them with 3-4 new SSBNs to carry life extended Trident missiles. The case has been made that the 'Van-

guards' were built for a certain lifespan and cannot be kept in service as long as their American 'Ohio' class equivalents. The need to maintain submarine design and construction expertise was an important element in taking the decision to replace relatively early.

A critical mass of about ten submarines makes the maintenance of nuclear powered assets more economical. The relatively high costs of ownership of nuclear powered submarines has been questioned in certain RN quarters but there is no equivalent way of deploying covert presence and at sea and from the sea combat power so quickly on a global scale. Neither is there a more secure means of deploying a nuclear armed ballistic missile system of such power and flexibility. It seems most unlikely that Britain will give up such a key platform technology, especially as other nations are joining the SSN/SSBN 'club'.

The 'Naval Service' (which includes the Royal Marines) has shrunk since the end of the Cold War, but not as much proportionately as the Royal Air Force. By 2008 the junior service had shrunk by over fifty per cent compared to the Royal Navy's almost forty percent. The Army's cut was just over thirty percent. This leaves the Naval Service still as the smallest service at 38,600, of which 7,700 are marines. Interestingly, and as a reflection of the nature of a modern naval service the number of officers has only come down to 7,500 from just over 10,000 in 1990 and 7,900 in 1997. Other ranks have reduced to a much greater degree. Lest it be thought that this scale of personnel is unprecedentedly small, it is almost twice the strength of the Royal Navy after post – Napoleonic War demobilisation and about the same strength as the service maintaining the Pax Britannica at the time of one of the greatest demonstrations of its power, the operations off the Syrian coast in 1840.

In return for this investment of men and women the Royal Navy maintains a continued capacity to deploy real strength and combat power widely in the world's oceans. It is now much more a participant in coalition operations than a purely national actor but there is nothing new in that and it is fully capable of acting as a lead nation in combined operations if its primary ally, the USA is not involved. Will this situation remain in the medium to long term future, given current financial difficulties?

It is not too optimistic to think that it will. There are serious shortfalls in funding in the overall current equipment programme and some hard decisions will have to be taken around the end of the year. This process will see more of 'the sky is falling' publicity that usually accompanies such planning exercises as options are considered, if only to be dismissed. It is possible that naval programmes might suffer but it would be surprising if the real capability of the fleet was too seriously affected. It certainly seems most unlikely that the carrier and its almost

6,600 strategically placed jobs will be negatively affected, especially as such investment has been identified as a major way of mitigating the worst effects of the recession. The Ministry of Defence, now led by a politician fully aware of the maritime defence industrial base; he is Member of Parliament for Barrow, home of the RN's nuclear submarines. How far he will be able to play the jobs and investment card for other naval projects, especially future surface combatant, will be interesting to watch.

The recent re-emergence of Russia as a threat to its neighbours adds an interesting new strategic imperative to arguments about naval capability. It should rebalance a discourse that has been far to dominated by land forces and their interminable skirmishing against Iraqi and Afghan insurgents. A more serious threat, and the need for serious power projection, ought to redress things somewhat. Russia threatening this region will not bring back the land heavy and land based posture of the Cold War. A better historical comparator would be the Russian War of 1854-5. Russia was contained by maritime power projection then and could be again. It is interesting in this regard that a major favourable scenario that helped clinch the carrier debate positively in 1998 was a Baltic scenario in support of Poland. Operational Analysis clearly proved that the carrier was the best means of providing this.

There is a tendency to look at the current state of the Royal Navy as the cup being half empty. It is at least half full, perhaps more so. Given all the negative publicity (not helped by the unfortunate incident when naval personnel were captured and held by the Iranians in the Gulf in March 2007) the British people currently rather under estimate their navy. In this context scare mongering, however well meaning, is counter productive. A more positive attitude is required. The carriers have a special role to play here. Numbers of frigates and destroyers are abstract concepts. Submarines are by definition stealthy and covert. Amphibious ships are rarely beautiful. The new carriers will be impressive by any standard, true 'capital ships' as the RN has chosen to rechristen its major assets. They will strike a chord with the British public that still fundamentally expects its navy to be a world class player. It is to be hoped that the real and continuing capability of the Royal Navy will then get the recognition it still deserves both at home and abroad.

Tactical Blindness? Reviewing the Strategic Implications of the Somali Piracy

Karl Sörenson

This article outlines how the Somali piracy has evolved; from the occasional boardings of off-shore fishing vessels to a million dollar industry. So far the international community's best response has been reaction on a tactical level. This article attempts to show that piracy, when systematic like the Somali piracy, needs to be addressed strategically.[73]

Background

The Gulf of Aden and the water outside the Somali coast is one of the most heavily trafficked maritime areas in the world. Every year an estimated 16,000 vessels pass through the Red Sea and the Gulf of Aden, either inbound or outbound for the Suez Channel.

In 2003, a new phenomenon occurred off the coast of Somalia and in the Gulf of Aden, ships and fishing vessels were being attacked by pirates. The frequency of this activity slowly increased. Shipping companies also started to become concerned when the pirates began to target commercial vessels. The past year has seen unprecedented high levels of pirate activity in the Gulf of Aden, with more than 80 recorded attacks on ships so far.

In response, the UN Security Council passed resolution 1816 and later in 2008 resolution 1838, which encourages the international community to actively participate in the management of security in the Gulf of Aden and off the coast of Somalia. The resolutions also stipulate the legal framework for actively targeting the pirates. The Combined Task Force 150 (CTF-150), which originally was tasked to participate in the War on Terror, received an expanded mandate to assist ships passing through the Gulf of Aden against piracy. In 2007, France

[73] This article is a condensation of a report entitled "State Failure on the High Seas – Reviewing the Somali Piracy", published by the Swedish Defence Research Agency, FOI, in November 2008.

took the initiative to operation Alycon with the purpose to protect the World Food Program's (WFP) ships to Somalia. Operation Alycon was replaced in December 2008 by the EU NAVFOR Somalia operation Atalanta.

Moves…

Over the past five years the Somali pirates have been operating according to the same principles, but the techniques and manners of the hijackings have evolved. The first ships boarded were Spanish and Danish fishing trawlers that were fishing tuna close to the Somali coast. The Somali fishermen seem to have disproved

of the unwarranted competition, and they boarded a ship claiming that, due to the lack of a coastguard, they had to police the territorial waters themselves.[74]

Whether it was the simplicity of boarding a vessel or the lack of a coastguard that they were trying to make up for, or perhaps a combination of the two, is difficult to say. Some have even suggested that these early boardings were carried out by individuals trained by private security companies hired by the international community to train an embryo of the Somali coastguard.[75] One group of Somali pirates, maybe the most infamous, also called themselves the *Somali Marines*, to emphasise the nature of their work. The Somali Marines operated between 2004 and 2006, but, since then, they seem to have vanished as a group. The clear and successful development of the Somali-hijacking technique is however evident.[76]

2–4 small high-speed boats, or skiffs, with a crew of 3–6 individuals on each boat approach the ship, often one skiff take the lead and act as a spotter. The pirates then attempt a boarding and, if successful, more pirates are picked up under way to better control any hostages. The hijacked ship is then taken to a safe harbour on the Puntland south-eastern shore, beyond the control of the reach of the international naval forces or out of reach of the few coastguards that Somalia can muster. Some of the known villages used by the pirates are Eyl, El-hur, Haradhare and Hobyo. A ransom for the crew is eventually negotiated and exchanged.[77]

The method employed is plain to see, but, over the past three years, some changes have occurred which not only show that Somali piracy can be hampered in its practice, but also that they themselves are willing to change their behaviour to improve their success rate.

The Somali pirates are comparably well armed. The standard equipment is the AK-47 Kalashnikov automatic rifle and the RPG-7, rocket-propelled grenade launcher. Both types of weapons are easily obtained in the war stricken Somalia. The Somali pirates must also be counted as a group who are prone to violence. Although, well-armed and aggressive, the Somali pirates have so far exercised little lethal force.[78]

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[74] Murphy, M. N. (2007) Contemporary Piracy and Maritime Terrorism – the threat to international security, Adelphi Series, IISS, p. 30.
[75] Interview with Shipping Company security officer, 17/09/2008.
[76] Middleton, R. (2008) Piracy in Somalia – Threatening Global Trade, Feeding Local Wars, Chatham House Briefing Paper, AFP BP 08/02.
[77] BBC (18/09/2008) Life in Somalia's pirate town, http://news.bbc.co.uk/2/hi/africa/7623329.stm
[78] Murphy, M. N. (2007) Contemporary Piracy and Maritime Terrorism – the threat to international security, Adelphi Series, ISS, p. 30.

So far, Somali piracy activity has almost exclusively been about hijacking ships in order to extort as much money as possible. In contrast, the pirates in the Malacca Straits have often given up their price as soon as they have taken easily accessible valuables, which without difficulties can be sold. As mentioned, the Somali acts of piracy have been recorded all along its eastern and northern coasts, with exception of Somaliland. Since 2004, most of the piracy activity seems to originate from the region of Puntland, i.e. the tip of the horn of Africa (see map), and Eyl seems to have grown in importance as a hub for anchoring ships that are taken hostage.[79]

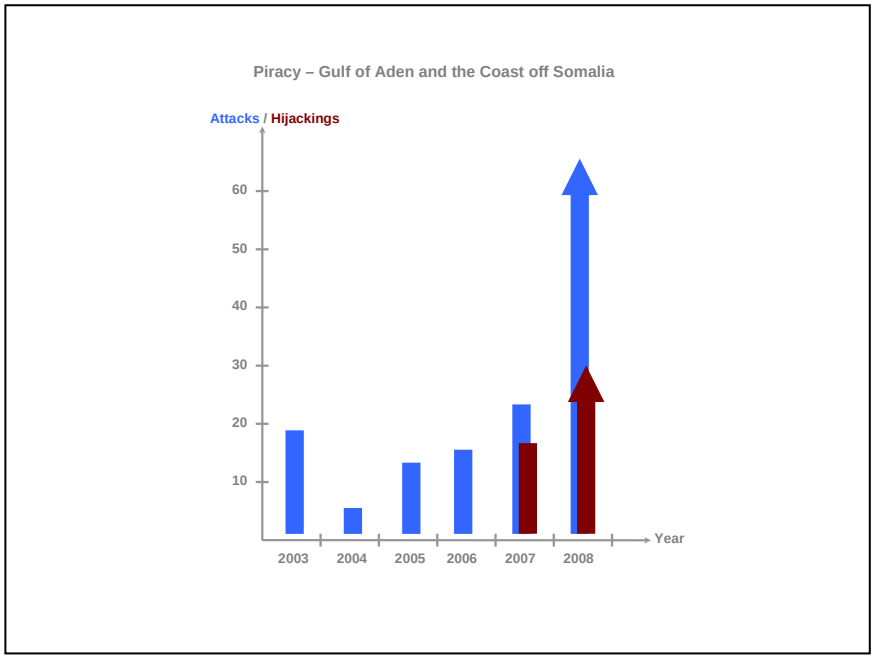
It has also been recorded that many pirates while on a hijacked merchant vessel repeatedly have altered the position of where to anchor the hijacked ship, after receiving new information from someone ashore, as in the case with Lehman Timber. This suggests that some pirate groups have a sufficient network and organisation both to know where safe harbours are to be found and that they have the possibility to control several harbours.[80]

In an attempt to avoid the increasing number of pirate attacks, which spiked after the Union of Islamic Courts fell in December 2006, the shipping companies recommended that their ships should keep a distance of 200 nautical miles (nm) from the coast of Somalia.[81] The warning seems only to have slightly improved the situation, as the number of attempted boardings continued to increase.[82] The reason that the Somali pirates were not affected by the new shipping recommendations, although their small speedboats might have had difficulties reaching beyond 200 nm, is likely to be due to the fact that they quickly attained larger mother ships. These yacht-like ships can carry 5–10 skiff boats and have a much longer endurance. Two yacht-like ships, known to be operated by the Somali pirates, have been identified by the International Maritime Bureau.[83]

The techniques of trapping and luring ships, employed by the Somali pirates, also seem to have evolved. Commercial captains have reported that fake distress calls are frequently intercepted, clearly intended as bait. Similarly, manoeuvres to mimic the signature of Forces have been noted, with the probable intent of tricking ships into thinking that certain positions are safe. The Somali Pirates also seem well-informed about the positions of their prey. At times, they have been very precise in knowing just where one ship will be. Information on ships' locations is easily attainable on the internet and it has been suggested that they, on

[79] BBC (18/09/2008) Life in Somalia's pirate town, http://news.bbc.co.uk/2/hi/africa/7623329.stm
[80] Scandinavian Shipping Gazette (26/09/2008) A 54-day visit in hell, p 28
[81] ICG (26/01/2007) Somalia: The Tough Part is Ahead, Africa Briefing no, 45, Nairobi/Brussels.
[82] ICC IMB Annual Report 1 January – 31 December 2007.
[83] Ibid.

occasion, have managed to pay off or buy more precise information regarding when and where a certain ship will pass the Gulf.[84]



…and counter-moves

As mentioned in the introduction, the Gulf of Aden and the Somali coast is one of the most heavily trafficked maritime parts in the world. An estimated 16,000 ships pass annually, and many of the major shipping companies have vessels passing through at one point or another. In addition, many fishing vessels also traffic the water to fish, especially tuna.

So, it is not surprising that most maritime nations are concerned with the Somali piracy. According to statistics, the flag states most affected by Somali piracy are Liberia and Panama. This is because most ships sail under these so-called flags of convenience, to avoid certain forms of taxation. However, by reviewing the IMB piracy statistics, with reference to the managing countries of the ships, a better representation of which states are actually concerned with Somali piracy

[84] Interview with Shipping Company security officer, 17/09/2008. §

can be obtained. Germany, Singapore and Greece are over represented in the statistics of Somali piracy.[85]

This might have contributed to the difficulty the shipping industry has had in coordinating a response to the Somali piracy. A limited number of counter-measures are in place, but it is unclear as to what extent they actually work. Still, there are a number of countermeasures which can be utilised. According to the shipping companies, these are: The high freeboards and the high speed to make it more difficult for the pirates to board a ship. It has been suggested that a fire hose can be used to fend off attackers, but since this practise exposes the crew-man operating it to hostile fire it is by some considered too dangerous. Flash-lights, increased watch in combination with a constant update of the situation and sailing along the suggested coordinates increase the probability to avoid pirates and for the coalition forces to come to rescue, if an attack was to take place. Cap-tains are also encouraged to call in suspected pirate vessels. Some shipping com-panies also advocate that the Automatic Identification System (AIS) should be turned off when passing through the Gulf since its transmitter can be used to track the location of a ship.

Most of the major shipping companies also entertain a non-violence policy, to reduce the risk of violent responses and long-term escalation. While exceptions exist, the majority of the attacked ships have refrained from returning fire, al-though some of them have been equipped to do so.

A combination that, at least in part, seems to be effective is the combination of high speed, high freeboards, increased watch and keeping to the coordinates suggested by the coalition forces. Even so, ships applying all of these means have still fallen prey to the Somali pirates.

As mentioned, there are already two naval components on station, the CTF-150, and the EU operation Atalanta. When the WFP ship MV Rozen was hijacked, food destined for Somalia was kept on board for 100 days by the pirates. An additional WFP ship was hijacked only two months later.[86] As a result, France took the initiative to operation Alycon. France, the Netherlands, Denmark, and lately, Canada has escorted the WFP ships in the hostile waters as apart of opera-tion Alycon. Alycon was replaced by the EU NAVFOR Somalia operation Ata-lanta in December 2008.[87]

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[85] ICC IMB *Annual Report 1 January – 31 December 2007*.

[86] BBC (13/10/2005) *Somalis Seek Help to Stop Pirates*, http://news.bbc.co.uk/2/hi/africa/4339344.stm

[87] Middleton, R. (2008) Piracy in Somalia – Threatening Global Trade, Feeding Local Wars, Chat-ham House Briefing Paper, AFP BP 08/02.

It has been proposed that the WFP escorts should be expanded to general convoys of the ships passing through the Gulf of Aden. The idea of convoying merchant vessels has been proposed on several occasions, but it seems to be difficult to implement. Many of the larger shipping companies have vessels that travel at far greater speed than most of the smaller vessels. To slow down the bigger vessels is not an option, since they then would lose valuable time. In addition, the use of high speed is one of the few techniques that is known to be working to avoid being targeted by the pirates. A cluster of ships passing at low speed might also risk inspiring more piracy.

Surveying the Gulf of Aden and the Somali coast is a general problem for the warships on station, since their relative low number must cover a rather large area. A blockade of certain ports might also be difficult since the skiffs easily can be transported by lorry to a different harbour or simply be put out from an uncontrolled beach.

Deterring the Somali pirates seems to be difficult. Deterrence relies on the psychological factor that the threat is, or appears to be, credible. So far, the only deterring factor that has worked is close escort with navy vessels.

France is the only nation, to date, which has carried out a rescue operation. The hijacked cruiser Le Ponant, with 30 hostages, was re-claimed and the hostages liberated by French forces. Although the operation was a success, it does not seem to have deterred the pirates, as the number of hijacked ships continued to rise during 2008.[88]

To increase the deterring effect of the naval presence, it would be possible to escalate by responding through the use of more force. But, this presupposes two things: first, that there is legal room for such use of force, and, second, that it does not, in turn, escalate the pirates' behaviour – which would involve a long-term risk. It is questionable whether the international community could afford an escalation of the situation. The Somali pirates are well armed and do not seem to hesitate to use force, although they have avoided it if possible. Therefore, a departure from the more cautious approach may have tragic consequences for the crews.

The legal aspects have created some insecurity on how UNCLOS, UNSCR 1816 and 1838 relate to the penal laws of the troop contributing countries (TCC). In addition, most TCC's are reluctant to hand over captured pirates to the Puntland government since they fear that the Somali authority's treatment of apprehended

[88]Le Figaro (11/04/2008) L'armée française libère les otages du Ponant, http://www.lefigaro.fr/international/2008/04/12/01003-20080412ARTFIG00187-l-armee-francaise-libere-les-otages-du-ponant.php

pirates might not be in accordance with human rights. As a consequence the TCC have responded differently when pirates have been apprehended. The Danish Navy frigate which intercepted 10 Somali pirates decided to release them after confiscating their weapons, citing an unclear mandate. This can be compared with the French Navy, which brought the perpetrators from the Le Ponant hijacking to Paris to stand trial. Although the French rescue was made ashore while the Danes intercepted the pirates at sea, the states participating in the naval operation in the Gulf of Aden seem to view the mandate differently.[89]

Still, in spite of all these activities the Somali piracy is increasing. Why? What will make the piracy stop? Some of the answers might be found if we instead of studying the pirates' tactical approaches let our eye wonder ashore.

Organisation of the Somali pirates

To better understand the nature of the Somali piracy, its incentives, strategy, political connections and its basis of organisation the analyses needs to be expanded. By doing so some light might be shed on some of the more structurally complicated questions associated with piracy.

The Somali pirates' methods and their willingness to adapt their tactics indicate that they can be well organised. The Somali Marines was an example of a group that operated on a more organised basis. Other pirates seem to be much less of a well organised entity and operate in a more ad hoc manner. Given the different level of sophistication in techniques used and the geographical spread of the attacks indicate that the Somali pirates are not one band or group which is acting according to one plan and following orders from a centralised leadership. The earlier achievements of the Somali pirates seem to have triggered an increase in deeds over the last three years. This escalation does not only apply to the increase of individuals willing to participate in acts of piracy, but also to communities along the Somali coast. It is therefore difficult to generalise the level of organisation amongst the Somali pirates since more and more people are turning to piracy or to affiliated activities.

In 2008 it is estimated that the turnover from the Somali piracy is something around USD 30 million. Given that Puntland's general economy is estimated to around USD 20 million, it is quite apparent that the piracy is vital for the Puntland economy. An interesting incident is that when the Union of Islamic Courts took power in June 2006 the piracy activity dropped sharply. When the UIC fell

[89] Lloyd's List (25/09/2008) Danish navy releases 10 Somali pirates, http://www.lloydslist.com/ll/news/danish-navy-releases-10-somali-pirates/20017574257.htm

in December the same year the piracy spiked, which indicate that many people are dependent on piracy as their main source of income.

The payoff for the individual pirate might differ, depending on the hierarchal structure of the group in question, and the extorted ransom. Some of the groups seem to award a set price given which role a pirate played in the hijacking, whereas other groups seem to be working on percentage. The structure also seems to be of a dynamic nature. Although the boarding of a merchant vessel is made by a certain few, it seems possible to be added to the operation, and thus being entitled to a cut of the ransom, by for instance participating in the safe-keeping of a newly arrived hijacked vessel.[90]

Hence, the incentives for turning to piracy are higher than for any other business, and as a consequence more and more Somalis are turning to piracy or piracy associated activities. There are also a couple of factors which work in favour for anyone who whish to turn to piracy. Puntland is relatively calm compared to South and Central Somalia. This seems to be important for the piracy. The lengthy bargaining procedures demand a certain infrastructure: a safe harbour, accommodation for the hostages, reliable communication and a minimum level of logistics, requiring a secure environment.

The majority of the 2,5 million Puntland inhabitants belong to the Harti clan, a sub-clan to the Darod. An important resource for any group of the Somali pirates, regardless of organisational level, is the Somali Diaspora. An interesting aspect is the network provided by the clan. Often, a negotiated sum of money from a hijacked ship is directly delivered to the pirates, e.g. in the Eyl harbour, but, on several occasions, the handover has been made in a third country, such as Yemen or Kenya. A part of the ransom often goes to the Somali Diaspora, if this is a "share", for safekeeping or both, is not always clear.[91] There are also examples when Somali expatriates have been instrumental in getting telephone numbers to civil-servants to accommodate the bargaining procedure concerning a hijacked merchant vessel, as in the case with Danish tanker Danica White.[92]

So far the President of Puntland, Mohamud Muse Hersi, has not intervened against the piracy. If this is because Hersi is unwilling or if it simply is an effect of the Puntland militia's limited resources is not clear. It is not known whether Hersi himself is connected to the piracy, but it has been suggested that the presi-

[90] Los Angeles Times (31/10/2008) Somalia's pirate problem grows more rampant, http://www.latimes.com/news/nationworld/world/la-fg-pirates31-2008oct31,0,649768.story
[91] Middleton, R. (2008) Piracy in Somalia – Threatening Global Trade, Feeding Local Wars, Chatham House Briefing Paper, AFP BP 08/02.
[92] Scandinavian Shipping Gazette (26/09/2008) The chosen ones – ready for the hotspots, p 30

dent of Somalia, Yussuf, is receiving money from the piracy as a token of good will.[93]

There is an additional level of complexity associated with the Somali piracy, which we briefly have touched upon.

A type of actor that has strengthened its position in the security vacuum during the period 1995–2005, and the turbulence following the rise and fall of the UIC is the Somali entrepreneur. With the gradual disintegration of the Somali state economy, Somalia has become dependent on these actors. These economic actors control and operate services such as airports and seaports, run parts of the telecommunication network, supply electricity and deliver fresh water. In addition, they provide scarce goods through their logistical networks, effectively connecting Somalia, Puntland and Somaliland with Djibouti, Ogaden and north Kenya. [94]

One of the largest entrepreneurs was the al-Barakat money transferring company, which connected an estimated 1 million Somalis residing abroad with Somalia. Al-Barakat operated from 40 countries and it is estimated that the Somali diaspora remitted between USD 800 million and USD 1000 million annually, of which 50% is believed to have been used for domestic consumption. In 2001, the US closed down the al-Barakat money transferring company for suspected links to Al-Qaeda and seized its assets. Up to its closure al-Barakat was Somalia's biggest employer controlling much of both Somalia's radio networks and telecommunications. Although al-Barakat was allowed to reopen in 2005, after being acquitted from the charges, it has lost much of its former influence to smaller regional actors, whom took over in the four year absence of al-Barakat.[95]

An interesting aspect is that these economic actors not only seem to transcend the clans and families in terms of organisation, but they have also become an increasingly important political constituency. Since volatility often impedes business, many of the business communities maintain a military capability. In many areas, especially in Puntland, some of the business communities are militarily stronger than some of the clan factions. It is difficult to clearly distinguish between actors who essentially run legitimate businesses and those who operate illegally. This is mainly because many of these entrepreneurs do both and it is within this broader economical context that Somali piracy is situated.[96]

[93] Middleton, R. (2008).
[94] Menkhaus, K. (2007) Governance without Government in Somalia, International Security, vol. 31, no. 3, pp. 74–119, p. 89.
[95] Europa Regional Surveys of the World (2008) p. 1064
[96] ICG (04/05/2004) Biting the Somali Bullet, Africa Report no. 79, p. 17.

Over the years while the shipping industry has been discussing countermeasures, and only a few countries have shown any real interest in the question, the structures surrounding the Somali piracy have established themselves, forging the dominant incentive – money.

Curiously, it is the very same incentive that has dominated the reluctance to address the piracy from the international community. As we shall see there are a number of reasons why little has been done.

On the other side of the looking glass

There are a number of economic variables effecting the current pirate situation around Somalia, but only some can be traced to Somalia. In 2007, 17 of the 16,000 ships that pass through the Gulf of Aden were boarded and hijacked passing through the Gulf or along the Somali coast.[97] This means that roughly only 1 of a 1000 ships is hijacked. Although it is not known exactly how much the shipping companies, via their insurance companies, have paid in ransom, the disclosed sums vary between USD 700,000 and USD 1.5 million. This would equal an annual net sum of something just short of USD 20 million, or about EUR15 million. In 2008, which has seen an increase in piracy, the sum might already be as high as USD 30 million.[98]

All major shipping companies insure their ships. Somewhat simplified, the insurance consists of three parts: the insurance of the ship, the insurance of the ship's cargo and an additional insurance, which is variable depending on where the boat is sailing. When passing through the Gulf of Aden, which is considered a high risk zone by the insurance companies, the premium increases. Most insurance companies are re-insured through other insurance companies, in order to spread the risk. Of course, an increase in pirate activity is also likely to increase the insurance premiums.[99]

USD 30 million is a lot of money, but, for the overall maritime insurance economy, it is of little significance. It would take a dramatic increase in pirate activity to make the costs so high that it would be beneficial for the insurance companies to put such high premiums that it would be cheaper for the shipping companies to divert their ships and go around the African continent to get to Europe.

[97] ICC IMB Annual Report 1 January – 31 December 2007.
[98] Middleton, R. (2008). "Piracy in Somalia – Threatening Global Trade, Feeding Local War", Chatham House Briefing Paper, AFP BP 08/02.
[99] Interview with Insurance Company representative (09/11/2008).

But there are of course also psychological effects to take into consideration. Although the probability of being attacked by pirates in the Gulf of Aden is very low, a recent study estimates an increase in insurance and transport costs from a high risk levy of USD 500 to 20,000 per voyage through the Gulf of Aden. This would, according to the same survey, add up to a total of USD 400 million annually in added insurance costs. The incentives for using the Suez Channel would cease to dominate once the extra cost equals or is higher that the alternative cost of the extra days it takes to go around the African continent. Either way, the extra cost would in the end be passed on to the end consumer.[100]

One issue, which reaches beyond the immediate economic incentives, is the fishing by foreign vessels off the coast of Somalia. Fishing is a crucial source of income for the Somalis inhabiting the coastal areas. It is estimated that the fishing by foreign fishing vessels in Somalia waters and the close proximity accounts for USD 94 million annually. The underequipped Somali fishers cannot compete with the foreign vessels, and because of the lack of a Somali coast guard, other than the pirates, there is no one that can keep the unwarranted fishing at bay.[101]

Although illegal and unauthorised fishing is not only a particular Somali problem, because of the piracy it carries additional complications. The fishing is allegedly one of the reasons for the Somali piracy, and although many of the vessels attacked today have nothing to do with fishing, fishermen are still routinely caught and either made to pay on the spot or taken for ransom. The Somali pirates might have lessened the extent of the illegal and unreported fishing, but the ransoms demanded, and "taxation" does not amount to levels which infringe or sufficiently deter the fishermen compared to what they stand to gain from continuing. Hence, an aspect of a legitimate Somali grievance still lingers.

Strategic replies to tactical annoyances

If the root causes of the Somali piracy are the poverty in combination with a weak state and a fragile society, it is clear that piracy is very difficult to root out once it has established itself. To reply with a naval presence might create a change in tactics and a temporary reduction in acts of piracy, but, will on its own ultimately, change little. This is because piracy is a profit-generated enterprise and until there are no more profits to be made, other economical enterprises be-

[100] BGN Risk (20/11/2008) Ocean of Opportunity for Pirates, http://www.bgn-risk.com/ocean_of_opportunity_for_pirates/88

[101] Marine Resource Assessment Group (2005) Review of Impacts of Illegal, Unreported and Unregulated Fishing on Developing Countries, MRAG, London, UK, p. 167

come more lucrative or the probability of success goes down so significantly that it is not worth the effort, the piracy attacks will continue to exist.

Although Puntland is economically better off than the south of Somalia, the USD 30 million injection is a lot of money, regardless of how you look at it. As long as the ships are passing through the Gulf and the political instability persists, the incentives, in purely economic terms for the piracy, are significant.

The alternative cost to seriously impeding Somali piracy will require at least a naval response. However, in economic terms, a naval operation of the magnitude required is extremely costly. The cost for fuel, munitions, maintenance and crew rotations for a fleet, which would have to consist of at least 20 larger ships to make a real difference, would vastly exceed the ransoms now paid over the course of one year. These costs must be weighed against the costs of the insurance premiums, which should go down if the piracy attacks decrease.

The drawback of a naval operation directed against the Somali piracy is that it has little chance of obtaining any long-term effects in itself. As long as the incentives for the Somali pirates are not altered, it will, in all probability, reappear as soon as the pressure from the naval operation is withdrawn.

An alternative, or rather a complementary, approach might be to convince the insurance companies to stop paying the demanded ransoms. This would, of course, to a large extent, divert the governing incentives for the Somali pirates, but it would also involve a high risk. The pirates might, in return, choose an equally hard approach, which, inevitably, would be directed against the hostages. And, even if the insurance companies could be convinced that such a hard-line approach might be feasible, the shipping companies would have to be convinced. As indicated, they might not like to see their crews in jeopardy, nor the cargo that, in this case, would fall directly into the hands of the pirates. The value of the ship’s cargo is also by comparison much greater than the ransoms that have, so far, been paid for one single ship.

A potentially feasible middle way would be if the insurance companies, collectively, could be persuaded to press the ransoms to a set minimum. This would not suffice to stop the piracy attacks, but, in combination with other countermeasures, it could prove effective.

To engage the pirates ashore is the option that potentially would be the most effective if any long-term results are to be attained. Although an intervention in Puntland is not on the international community’s political agenda there are still measures that can be taken ashore. The AU intervention mission AMISOM that is currently being built up in Mogadishu would, hypothetically, be instrumental in impeding the Somali piracy. However, AMISOM is grappling with economi-

cal difficulties and finding enough TCC, so far only Uganda and Burundi have sent troops.[102] Even if funds and troops could be allocated, it is unlikely that the priority would be Puntland, far away from the more acute problems in the south. This is unfortunate, since a land operation is probably the only way to really address the problem of piracy.

What concerns the situation in Somalia, in particular in Puntland, a best reply is more difficult to envisage. To train and pay the Puntland militia in combination with putting political pressure on the TFG president Yussuf and President Hersi might be a first step to make the Somali piracy's environment less secure. Equally, a UNSCR that explicitly covers the coastal areas of Somalia might be instrumental if the international community would want to have the option to directly engage the pirates ashore. An additional alternative to consider is to single out the most organised pirate group and from them create a substantial Somali coast guard. This would ensure national ownership of the piracy question, increase the general knowledge of the business and make an important contribution to impeding the piracy. Historically, experiences have not been overly successful in employing this method, as some of the pirates operating now are suspected to once have received such training, and put it to a different use. But, as it is possibly the most cost-effective method of impeding the piracy attacks, it may be worth another try. The idea might seem controversial, but given the extent of the Somali piracy, any future Somali coast guard will at least in part consist of some of the former pirates.

In addition, the fishing off the Somali coast by foreign vessels must be addressed by the international community. The credibility of the international community hinges on its legitimacy, which might be seriously harmed if this serious question is ignored.

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There are a number of operational methods that governments have used in attempts to root out piracy. The historical case which might be the most relevant to the discussion on the Somali piracy is the Barbary Corsairs, who presented great difficulties in terms of government response. In the 18th and 19th centuries, many of the European states (England, France, Spain, Holland and Sweden) negotiated protection treaties with the Barbary Corsairs to keep their ships safe. The treaties were, however, unreliable as they were sometimes simply ignored when another nation cut a better deal with Corsairs. The constant menace by the pirates caused many states to resort to force. England, France, Holland and the USA all carried

[102] UNSCR (19/07/2008) Report of the Secretary General on the Situation in Somalia, S/2008/466.

out punitive expeditions, at one point, to stop the piracy activity. But, it was not until France invaded Algeria in 1830 that the pirate activity was finally stamped out.[103] As mentioned, an intervention in Puntland is not feasible, but a start would be to seriously address the strategic issues associated with the Somali piracy. Lack of a strategic understanding of the piracy will ultimately impede every tactical response.

[103] Bouche, D. (1991) Histoire de la colonisation française, Fayard, Paris, p. 22.

Acronyms

AIS	Automatic Identification System
AMISOM	African Union’s Mission in Somalia
CTF-150	Combined Task Force 150
IMB	International Maritime Bureau
IMF	International Monetary Fund
NAVCO	Naval Coordination Cell
NAVFOR	Naval Force
SCR	Security Council Resolution
TFG	Transitional Federal Government of Somalia
UIC	Union of Islamic Courts
WFP	World Food Program

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