AIR DEFENCE OF MARITIME FORCES

Arguably, the fear that they would be intercepted by substantial forces at sea, especially with the advent of air power, deterred many amphibious enterprises from setting out in the first place.

Geoffrey Till,
Sea Power: A Guide for the Twenty-First Century, p. 204

The on-going globalisation of trade and economic interests has resulted in the strategic interests of a nation now spreading across oceans. This may necessitate the creation of maritime military effects thousands of kilometres away from the borders of the nation. Under these circumstances, a number of nations have focused on creating maritime forces to protect their actual and/or perceived strategic interests. Proliferation of maritime forces is the obvious fallout.

Sea power is the core element in the creation of a maritime force, whether it is an amphibious task group meant to operate in the littoral, or a truly naval task group meant for control and denial of the sea. It has the inherent advantage of being able to stay on station, far away from home port, for extended periods of time. However, naval vessels remain vulnerable to subsurface, surface and air threats. In order to secure a maritime task force it is necessary to ensure that a protective bubble is created around it. This bubble will encompass the sub-surface sea space, the surface area and the airspace above. The dimensions of the bubble—its depth, breadth and height—will be a function of the perceived threats in the area of operations, balanced by the capabilities of the maritime task force to enforce such a bubble. Further, this protective security bubble must be able to move along with the task force at the pace required, like a protective umbrella being held by another person while one is walking in the rain, to ensure its continuous protection.

To a very large extent, the sub-surface protection is provided by submarines and complemented by anti-submarine capabilities resident in air power. Normally, the submarine force will be integral to the maritime task force. The situation is different when it comes to the surface and air protection bubble. Threats that emanate from the surface can be dealt with even beyond the horizon if there is a sufficiently capable air element that can detect, assess, target and prosecute sea-borne adversaries. While the same could be achieved by the naval vessels, air elements will be able to engage potential threats even outside the protective bubble the task force will be capable of generating on its own.

Air threats to a maritime task force are as dangerous as ones stemming from the other domains. Air elements also bring with them the added risk of being able to carry out their attacks in a stand-off mode that could be beyond visual and electronic detection range. In other words, contemporary air power can attack a maritime task force without having to let its platforms and systems be seen by the protective elements of the naval vessels. Only the weapon would be detected, with a very limited reaction time for the task force to react and initiate defensive measures. This situation is a recipe for potential disaster. A protective air umbrella is the answer to this threat to a maritime force.

Creating and maintaining a protective air umbrella above a task force is not easy. This umbrella will need to be in place at all times when a risk is anticipated and irrespective of the operating distance and duration of the maritime force. The obvious answer to such a requirement is to carry the necessary air power assets with the task force—the primary rationale for the creation of

Battlecruiser HMS Repulse was sunk in December 1941 due to lack of protection against air attack.
an aircraft carrier group. Fixed wing carrier aircraft can create and sustain the protective umbrella thousands of nautical miles from land and home base. A strong carrier group can counter most potential threats, including ones that originate from other similar carrier groups or from land-based aircraft equipped with the latest long-range anti-ship missiles.

However, it is conventional wisdom that a carrier group is prohibitively expensive to build and operate. The technology necessary to create such a force is only available to a small group of nations. In order to have one carrier group deployed continually, a minimum of three carriers are required and the skill sets needed to operate a carrier group efficiently is difficult to inculcate and is a lengthy process. The personnel requirements of such a fleet are normally far beyond the capacity of medium-sized navies to maintain for any length of time.

The alternative to ‘floating’ airfields is the use of conventional air power to provide fleet protection. For an air element that is land-based, creating a protective umbrella for a naval task force is a complex undertaking. In fact there are two contradictory factors to be considered in creating such a joint task force. First is the requirement for the air element to be able to move the protective umbrella along with the maritime force and maintain it without a break for the desired duration. Second is the fact that the effective operational range of land-based air combat assets is somewhat restricted, in comparison to the free-ranging capability of naval forces. Even with the use of air-to-air refuelling, the air element will not be able to match the naval radius of action. This means that the task force may have to tailor its operational radius of action in accordance with the range of land-based air assets or risk being outside the protective umbrella. One does not have to think very hard to come to the conclusion that operating outside the air protection umbrella in a contested environment will not be a wise decision. The limitation that maritime task groups face is based on the extent to which they can carry their own integral defensive systems, including air defence capabilities.

From an air power perspective, the demands of creating the protective umbrella over a maritime task force can become extremely asset intensive. In a contested air environment the assets required, in terms of both quality and quantity, to protect the task force— as well as the other enabling air elements, such as air-to-air refuelling and airborne early warning and control aircraft that are critical to the success of the air campaign—could become overwhelming even for middle-power air forces. In addition, if the maritime task group is amphibious in nature, the need to provide timely, accurate and concentrated air power during critical phases of the operation will add to the demand. A corollary is that amphibious operations may also be restricted to being conducted within the operational radius of the air elements. In an indirect manner, the success of a maritime task force is inextricably tied to the ability of air power to provide a mobile protective umbrella from under which to operate; and to its ability to provide fire power on an as-required basis to amphibious operations. In a contested air environment, there is no other alternative.

Key Points

• Sea power is the core element in the creation of a maritime force.
• Air threats to a maritime task force can be delivered without the platform or system being seen, visually or electronically.
• A mobile protective umbrella provided by air power is the safest way to ensure the security of a maritime task force, amphibious or otherwise.