ACQUISITION AIRCRAFT CARRIERS INDISPENSABLE AND INVULNERABLE WEAPONS SYSTEMS

BY

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The indispensable weapons system

In 1966 the Commanding Officer of *Ark Royal*, CAPTAIN Mike FELL, was asked to define the role of his ship. He replied that it was,

> "To travel enormous distances at high speed when ordered and to carry out any task on arrival in the operational area."

Significantly he did not constrain his definition to **blue water confrontations between battle fleets**; he used the phrase **any task**. A more succinct definition would be hard to imagine. **Any task** could be of short duration; it could equally be lengthy. A ship capable of steaming **enormous distances at high speed** could be equally at home moving over shorter distances at more modest speed.

More pragmatically, the *Oxford English Dictionary* defines an aircraft carrier as,

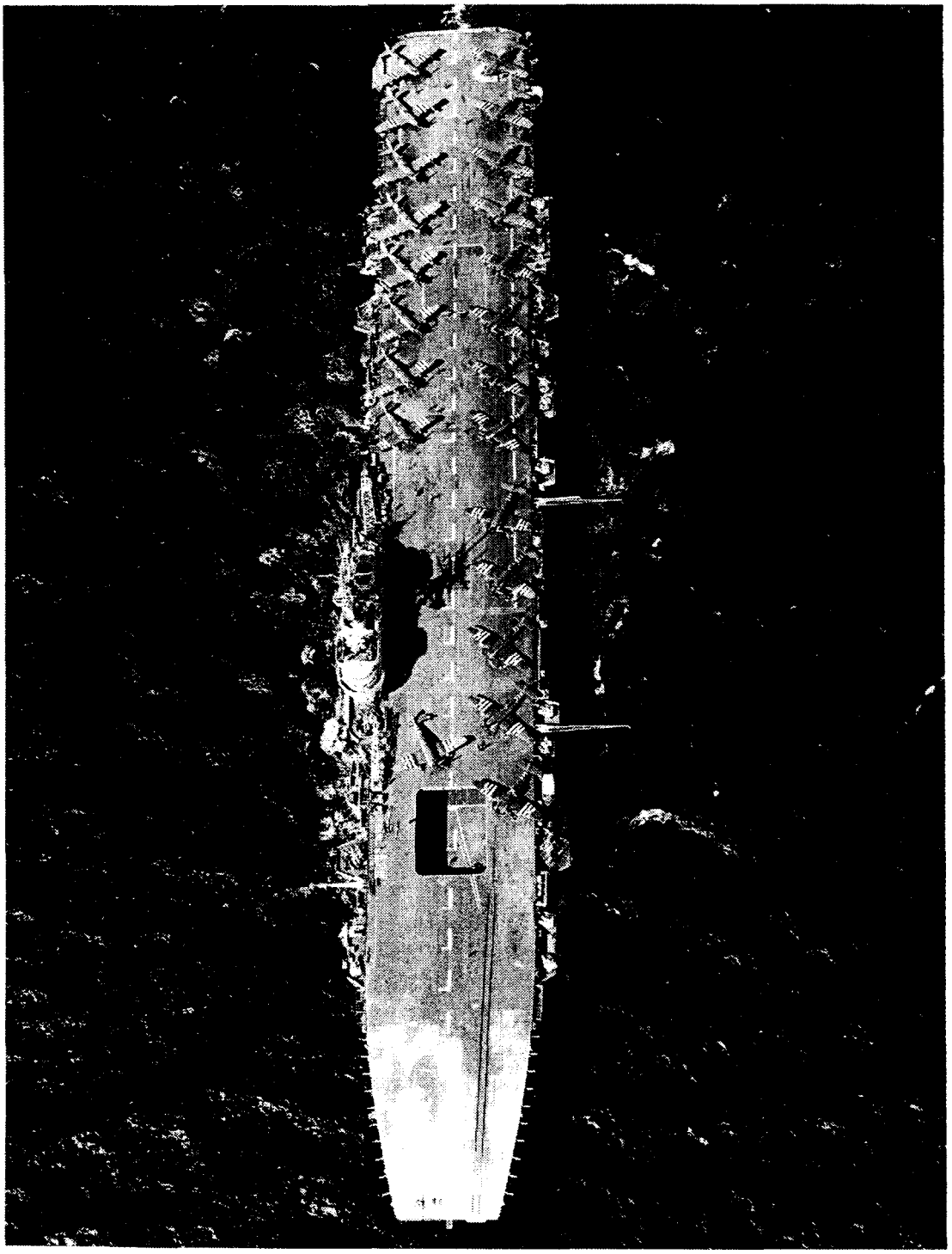
> "A warship that carries and serves as a base for aeroplanes."

Air operations are fundamental to virtually any military operation today and a mobile **sea base** capable of operating them would appear to be indispensable. This article is written from the viewpoint that no maritime nation can hope to be effective in the twenty-first century without deploying warships **acting as a base for aeroplanes**' capable of carrying out **any task**.

Since SQUADRON COMMANDER DUNNING of the Royal Naval Air Service first landed an operational aircraft on the flight deck of an operational warship under way in 1917, fourteen navies have operated aircraft carriers and eight do so today. Only four, Great Britain, the USA, Japan and France have designed, built, equipped and used carriers in action. The others have imported one or more elements of the package. China is the only member of the UN Security Council not to operate a carrier but this may not be the case for long and Japan is inching back into the 'Carrier Club' with a series of through deck destroyer and amphibious ship designs.

Aircraft carriers were a product of the First World War and came to prominence in the Second. Other warship types such as battleships and cruisers faded into obscurity after 1945 because their scope was too limited to justify the cost of their maintenance in commission let alone the construction of new ships. Aircraft carriers not only survived but also grew in scope over the same period. Since 1945 there have been repeated examples of their involvement and influence in both major and minor crises and conflicts, all of which have been in littoral waters. Obvious examples include:

- The Korean War.
- The Suez Intervention in 1956.
- Vietnam.
- The Second Indo-Pakistan War.
- The South Atlantic Campaign of 1982.
- The Lebanon.
- The Gulf War of 1991.



HMS *Glory* off Korea

More recent examples include:

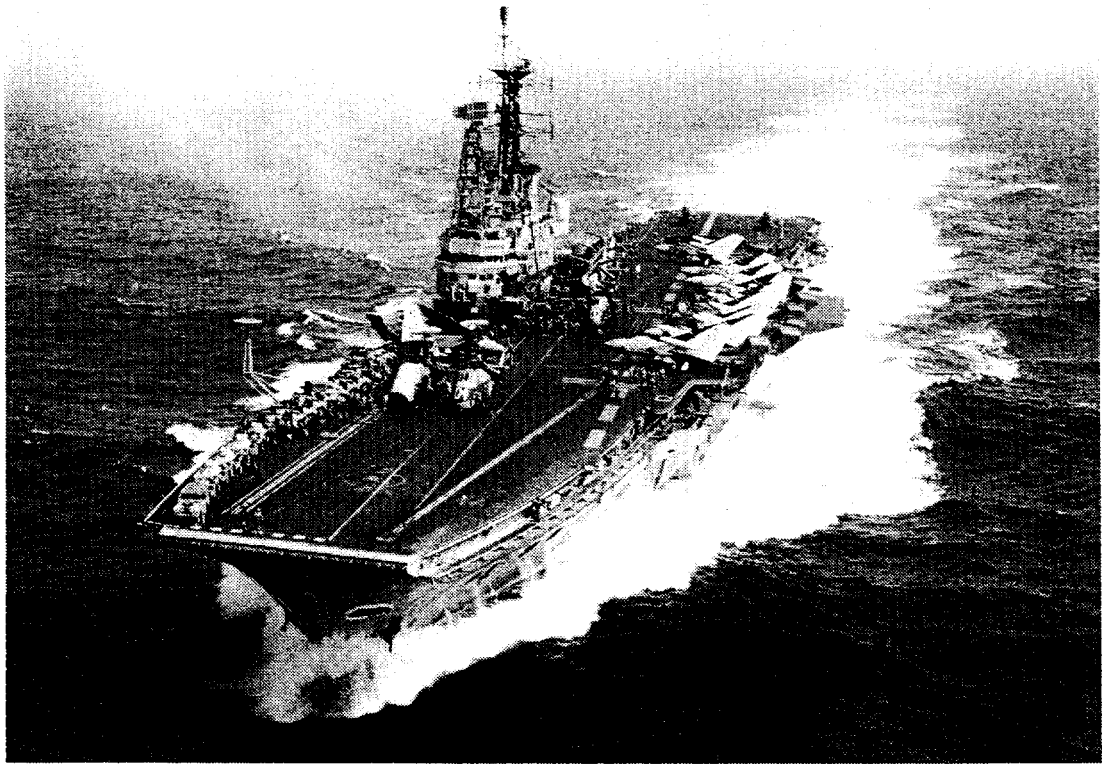
- Both UN and NATO Operations in the Former Republic of Yugoslavia, Kosovo in 1999.
- Peacekeeping operations in Sierra Leone in 2000.
- The Iraq War of 2003.

Successful deterrent operations are less well known because of their very success. Examples of these include:

- The effect of British carriers in the Persian Gulf in 1961 when Iraq decided not to invade Kuwait.
- Assistance in quelling army mutinies in the newly independent East African states in 1964.
- The Malaysian Confrontation.

Other examples include:

- The withdrawal or British forces from Palestine in 1948 and Aden in 1967.
- A show of strength by two BUCCANEER aircraft over Belize, threatened by Guatemalan invasion, launched from a carrier over 1,000 miles away.



CENTAUR, JANUARY 1965, EN ROUTE FROM ADEN TO EAST AFRICA WITH 45 COMMANDO, 16/5 LANCERS AND 2 RAF BELVEDERE HELICOPTERS IN ADDITION TO HER NORMAL AIR GROUP

It is not my intention to dwell on blue water operations but it must be understood that the littoral operations mentioned in the previous paragraph, and many more like them, took place against the back-drop of the Cold War. The US Navy carrier fleet, supported until the late 1970s by the Royal Navy, had a profound effect on Soviet strategic planning which led to a disproportionate scale of defensive measures that were never fully appreciated by Western politicians. This blue

water capability was latent and ready at short notice while the ships and their air groups were involved in littoral operations only a few days steaming from the Cold War stage. What other weapons system has been as flexible?

Aircraft carriers succeed because, unlike other warships, they are a fusion of technologies and systems. They bring together the mobility and sustained power of a large ship with the speed and radius of action of a variety of different aircraft types. The key to this success lies in the fact that the carrier contains so many of the basic principles of warfare within its system of systems i.e.

- It is mobile and capable of concentrating force to achieve maximum effect in time and space.
- It is supremely flexible, capable of surprise and offensive action at short notice.
- It can carry out several roles concurrently while hiding in the vastness of the sea.

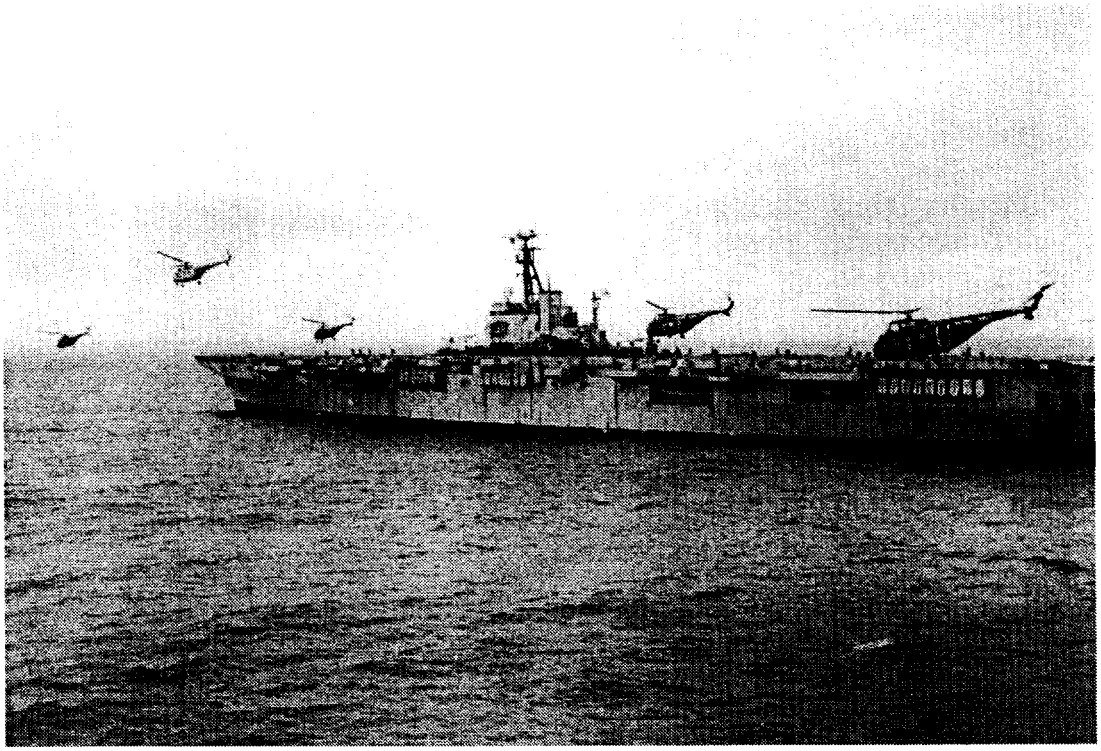
It should not be forgotten that no enemy has yet succeeded in finding, let alone attacking a US, British or Australian carrier since 1945. In addition to all this, an aircraft carrier is the ideal warship to co-operate with allies in the air, on and below the surface and on land. It can land aircraft, helicopters and marines (troops) or deploy them to other ships. It can accept similar reinforcements and absorb them to a greater extent than any other warship. With its inherent need for communications and intelligence gathering systems it represents an ideal command platform for national forces employed far from their base. When so employed it is secure and does not need to be defended against attack by land forces or terrorists, as a headquarters established on land would be.

Aircraft carriers are their own logistic base. They move to the scene of operations with workshops, a comprehensive inventory of spare parts, **change of role** equipment for aircraft and air weapons magazines together with the specialist people to derive the best from all of these. It should not be forgotten that they could also provide water, bread and technical support for ships in company and a force ashore. This can be of critical importance in war and in humanitarian relief operations. A land based air force would need to use shipping to move an equivalent package, would need a great deal of time to set it up ashore if suitable accommodation were available and would still be imprisoned within an immobile base subject to weather, sandstorms and enemy action. It would have to repeat the whole process to cope with the next crisis. When RAF fighters arrived in Kuwait in 1961, they relied on carrier air-direction rooms to control them as no air intercept radar existed ashore. When transport aircraft landed with troops they relied on marines, landed from the sea by helicopter, to defend the airfield for them in the initial stages.

Opponents of aircraft carriers often show, through their single dimensional arguments, a lack of understanding of both the ships themselves and the missions of which they are capable. Examples will help to put them into perspective and illustrate the fact that the potential for employment of such ships is increasing rather than declining as the twenty first century develops. The defining capability of an aircraft carrier with a balanced, integrated air group is strategic deployment. In peacetime this can underpin national foreign policy and demonstrate resolve. It can also demonstrate national capability; not many nations have the ability to deploy such a weapons system successfully and medium sized navies that can do so have leverage over less well equipped fleets and air forces. The very presence of a carrier and its aircraft might deter a potential aggressor from taking action on realizing that he would be opposed by forces from a sea base he might not be able to oppose. Examples include:

- The Eastern Mediterranean in 1958 where British and US carriers covered landings by US Marines in the Lebanon and British troops in Jordan to counter threatened Iraqi aggression.
- Again in 1961, the rapid move of British strike and amphibious carriers to the Gulf deterred Iraqi aggression against Kuwait.
- In 1963 British carriers were able to deploy joint forces which stopped mutinies by East African soldiers in newly independent states from degenerating into civil war.

There are a host of other examples.



WHIRLWINDS OF 845 NAS TAKING OFF FROM HMS *THESEUS* OFF SUEZ IN 1956

The recent Australian deployments to East Timor in 1999 and the Solomon Islands proved to be relatively benign in terms of an opposing military threat. Had the situations deteriorated, however, land based air would not have been fully capable of defending deployed ADF units on the ground, the lack of a carrier capability could have been shown to be a fundamental flaw in the Australian ability to act across the full range of military options. It is not enough to rely on an ally who has carriers, that ally may not be willing to commit support to a particular operation as the British found in the South Atlantic War of 1982.

In combat, a deployed carrier can gain and maintain sea control, local air superiority and play a decisive part in operations on the land. Its command, control and intelligence gathering capability provide an ideal base for a national command centre on the spot. Even if land based aircraft are able to take part at long range, their employment with a joint expeditionary force may not be effective without the air-minded control available from a carrier, as was demonstrated in Kuwait in 1961.

Aircraft carriers have been used in strike operations to achieve a strategic effect with conspicuous success. Examples include:

- The US and British Pacific Fleets in their operations against Japan in 1945.

- US, British and Australian operations throughout the Korean War.
- British operations at Suez in 1956 and the Falklands in 1982.
- US operations in the Vietnam War and in Iraq in 1991 and 2003.

The Australian contribution to the Korean war is particularly noteworthy as the RAN proved capable of deploying a fully worked up strike carrier only three years after the first establishment of its Fleet Air Arm.

Critics have cited the number of fighters embarked in strike carriers as being **defensive** and as **detracting** from their offensive capability. In reality, the aggressive use of fighters can achieve decidedly offensive results of strategic significance. In the US Navy's Cold War Forward Strategy, the strike carriers deployed F-14 TOMCAT fighters and E-2C AEW aircraft to seek out and destroy the Soviet Naval Air Force bombers that would have tried to attack the strike fleet. The bombers would have been engaged at ranges from which they would not have been able to launch missiles against the fleet, and they would have been destroyed. How **defensive** is that?

The third major capability is in manoeuvre warfare where a carrier provides direct action to support forces in the sea, land or air dimensions. These may be in concert with a small national expeditionary force or a number of coalition allies in a major operation. Examples include virtually every maritime activity carried out in the modern era by the US and British navies, since aircraft are the tools used by navies to conduct their business. The presence of an aircraft carrier adds weight to a national contribution to coalition forces and, as HMAS *Sydney* did in 1951, can demonstrate a professionalism that earns the respect of larger allies such as the USN. Inability to face up to the importance of such ships can have the reverse effect.

Even the act of sailing a carrier force can have a profound effect on the political discussions that precede armed conflict. After the Argentinean seizure of the Falkland Islands, the Royal Navy sailed a task force including the small carriers *Hermes* and *Invincible* on 5 April 1982, sending a powerful message of British intent to the Argentine Government but leaving the door open for negotiation. The alternative launching of a wave of land based strategic bombers briefed to attack the enemy capital would not have had the same effect and might well have damaged the British cause in the eyes of the international community.

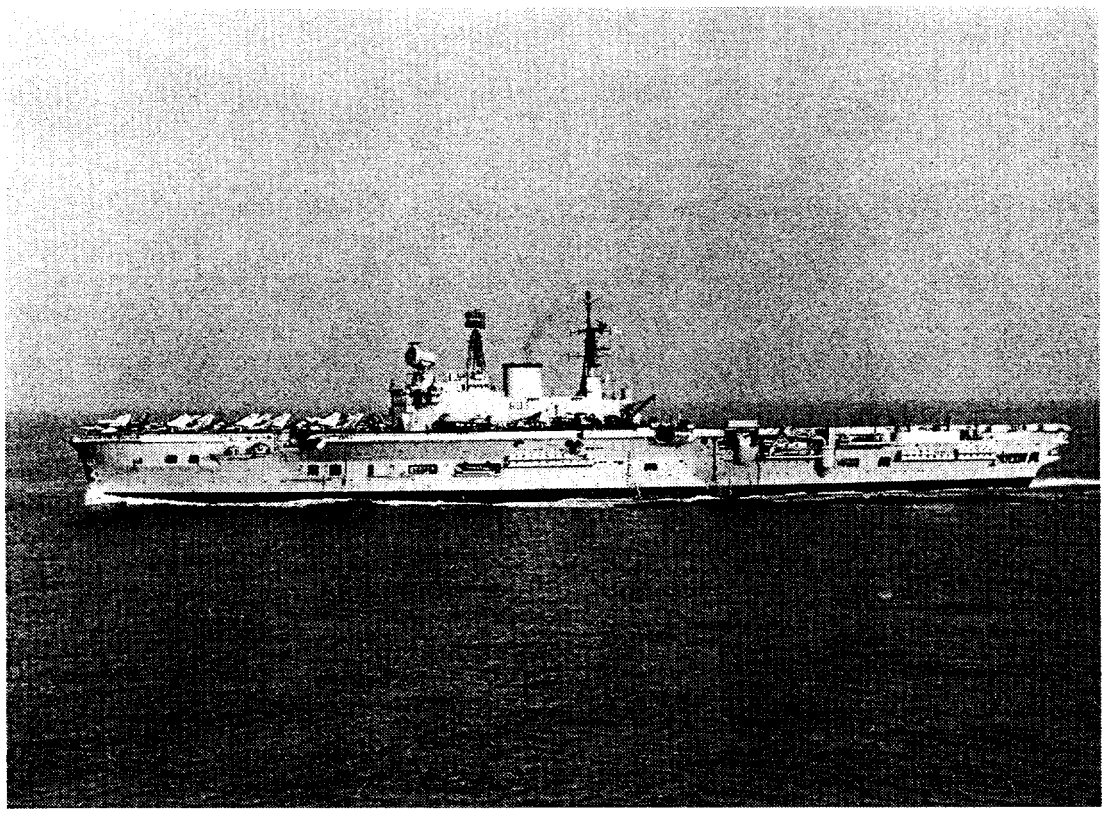
These are brief examples of how aircraft carriers have been used in the past and illustrate how they can be used in future. There are many other possible instances where not only do they have utility but where they may provide a government with the only effective national instrument it can use in certain situations. These include providing helicopter support to forces ashore, the physical movement and landing of amphibious troops and their kit, covering focused intervention and protecting peace enforcement forces deployed ashore. As an example of the latter role, the British Government insisted in 1994-95 that a carrier should be constantly available in the Adriatic to provide national top cover for British peacekeeping troops in the Former Republic of Yugoslavia. Land based aircraft in Italy were limited by unserviceability and weather and could not guarantee their ability to do so. This was one of the key factors in the decision to enhance carrier-based aviation as a cornerstone of the British Strategic Defence Review of 1998.

It goes without saying that carriers excel in any task that might fall to a warship or an airfield ashore. These might include SAR over land and sea, the evacuation of citizens and even the conversion to other tasks at the end of practical aircraft operating life.

CENTAUR AND *VICTORIOUS* OFF KUWAIT IN 1961

Moving from the general to the specific, operations by three ships are offered to illustrate the indispensable nature of aircraft carriers. In twelve months from July 1961, the British light fleet carrier *Centaur* moved from the UK to relieve the larger *Victorious* as the strike carrier on call in the Gulf, a key element in the British joint force that deterred Iraqi aggression against Kuwait. After training with the British Middle East Fleet, she took part in flood relief operations in Kenya, during which her helicopter squadron initiated a Flying Doctor Service with RN medical teams. Shortly after that she went to the aid of the Greek tanker *Stanvac Sumatra* that had broken in two south east of Saigon. She took part in the Commonwealth maritime Exercise JET 62 and the NATO Exercise RIPTIDE before returning to the UK after demonstrating a range of capability that no other weapons system could match.

In 1965 the Government of Rhodesia unilaterally declared independence from Britain. The United Nations called for sanctions, including an oil embargo, and neighbouring Zambia asked Britain to provide air defence against potential Rhodesian aggression. *Eagle* provided both until the months elapsed that allowed the RAF to establish facilities ashore for fighters and maritime patrol aircraft. Although it formed no part of her original deployment plan, *Eagle* spent 71 days at sea, a record at the time for a British carrier, on what became known as the Beira Patrol after the port in Mozambique through which tankers had delivered oil to Rhodesia. During that time she steamed 30,000 miles and flew 1,880 sorties, which identified 770 merchant ships up to 350 miles from Beira. 116 of these were tankers of which 2 were found to be heading for Beira and turned away.



HMS *EAGLE* AFTER MODERNIZATION

HMAS *Sydney* provided an excellent example of carrier utility during her career with the RAN. She saw service as a strike carrier during the Korean War, earning the respect of US and British commanders whom had considerably more carrier experience. The British Admiral SCOTT-MONCRIEFF described her performance as **quite excellent** when she completed her seventh and last war patrol. During these she had flown 2,366 sorties in 43 flying days for the loss of 3 pilots and 15 aircraft. For political reasons, she was not modernized, as she could have been, to operate jets but saw service as a training ship and as an amphibious transport running between Australia and Vietnam. She was able to carry large numbers of troops, vehicles and ammunition besides operating helicopters for her own defence and to land troops as necessary.

In summary, an aircraft carrier is a sea base capable of moving its people and aircraft virtually anywhere on the sea, which covers 70% of the earth's surface, and of achieving any task. It can scale up to strike operations in major conflict or scale down to a local SAR incident at notice measured in hours. It can spread its influence over the sea and, equally, over considerable areas of land. I do not see how a medium power navy can contemplate the range of activities for which it is responsible without possessing such a capability.

A study in vulnerability

Critics of maritime capability have argued that warships, acting as sea bases, are **vulnerable**. I intend to examine vulnerability in context and to determine whether sea bases are any more, or less, vulnerable than land bases that offer an equivalent capability.

The *Oxford English Dictionary* defines the word vulnerable as meaning,

> "That which may be wounded or harmed."

There can be very few weapons systems, if any, therefore that can be said to be invulnerable when exposed to combat. Perhaps critics mean to imply that air bases ashore are **less vulnerable** than sea bases. Let us examine the facts from a convenient starting point in 1939.

After the outbreak of the Second World War, the Royal Air Force expanded tenfold and deployed squadrons to expeditionary airfields throughout much of the world. Of these nearly one hundred were captured by enemy ground forces in Northern France, Norway, North Africa, Greece, Burma, the Dutch East Indies, Malaya and Singapore. The great majority were not captured by high technology air forces but by infantry little different from the troops who had fought in the First World War. Many of these lost air bases were quickly refurbished by the enemy and used against the allies. Examples include many of the sorties flown by the LUFTWAFFE in the Battle of Britain from bases in Northern France created by the Air Component of the British Expeditionary Force (BEF) and the RAF Advanced Air Striking Force. Many Japanese air raids on Singapore were mounted from air bases in Malaya established by the RAF inconveniently close to the coast where they were vulnerable to sea-borne invasion. Since 1945 allied air bases ashore have been over-run in a number of places including Korea, Egypt, Algeria, Kuwait and Iraq besides being rendered unusable in Vietnam and Afghanistan by high levels of military activity outside the boundary fence.

Notwithstanding considerable investment in them, a number of land bases were lost to the British after the grant of independence to the host nation in which they were built. These include airfields in Aden, Egypt, Palestine, Singapore, Iraq, several of the Gulf States and the island of Gan in the Maldive Islands. Since they occupy a fixed and obvious geographical position, land air bases are vulnerable to missile attack and can be neutralized by chemical or gas contamination. Against this, no airfield was put out of action by bombing, no matter how severe and the ability of airfields on Malta to remain operational during the heavy bombing of 1941-42 is an outstanding example of this fact. Airfields ashore remain vulnerable to asymmetric attack from regular troops, Special Forces and terrorists.

The allied experience with sea based aircraft during the Second World War was rather different. Between them, the RN and USN deployed 198 aircraft carriers in active operations. Of these only 19 were sunk, a considerably lower percentage of those deployed than any other type of warship. The loss of these ships was during a global war of many years' duration against world class powers employing the most sophisticated weapons available to them and possessed of considerable experience of maritime warfare. The effects of asymmetric attack were negligible.

Of the nineteen carriers lost, eight were British. Of these five were torpedoed by submarines, one was bombed by aircraft, one was sunk by gunfire from enemy warships and one was lost to an accidental explosion of petrol vapour in the aircraft fuelling system. The role of the ships at the time of their loss is significant. *Glorious* was misemployed evacuating a handful of RAF aircraft from Norway to the UK when superior surface forces overwhelmed her. She did not form part of a balanced task force nor did she have more than a token air group embarked. The intrinsic value of the ship was far greater than the value of the aircraft she was attempting to rescue. *Ark Royal* was torpedoed after ferrying RAF aircraft to Malta. Like *Glorious*, she lacked a full air group and did not form part of a balanced task force. *Hermes* had no aircraft at all on board when she was sunk off Ceylon by Japanese carrier-borne aircraft. She was evading an anticipated strike on Trincomalee and relied on shore-based fighters, which failed her, for defence.

The type of aircraft carrier is also significant. Escort carriers such as *Avenger* and *Audacity* were not built to withstand battle damage from torpedoes and their loss,

though tragic, was not surprising. Later escort carriers, modified to the full British standards dictated by war experience, were more robust and *Nabob* and *Thane* survived hits by torpedo and mine. The older carriers *Courageous* and *Eagle* were conversions in which the systems of protection were not up to the standards required in modern war. Their retention in service reflected the desperate measures taken by the Admiralty to get aircraft to sea despite the critics of sea-based air power in the 1930s. Only *Dasher* was lost to petrol explosion, a cause that destroyed many American and Japanese ships. No modern fleet carrier was sunk although bombs, torpedoes and kamikaze aircraft hit several in the many and varied campaigns they fought.

In operation the modern aircraft carrier forms the centre of a task force, itself part of a larger complex of national or coalition forces. In addition to its proven offensive power, carrier aircraft contribute to the protection of the task force and derive protection from it. In grinding down the enemy, defensive sorties contribute to the aim of fighting and winning and should not, therefore, be dismissed as of secondary importance. The aircraft carrier can be manoeuvred within the task force to mask its position whilst obtaining the best defence. Those who claim that the sinking of the British merchant ship *Atlantic Conveyor* in 1982 marked the dominance of the EXOCET Air to Surface Guided Weapon fail to realise that the attackers intended to hit one of the two aircraft carriers. In a battle space dominated by defensive fighters and missiles the Argentine aircraft were forced to operate at low level; when they popped up looking for a radar target, they fired at the first thing they saw. It was not the intended target, and defence in depth worked. Since 1945, **almost without exception**, no enemy has located an operational US, British or Australian aircraft carrier despite their extensive deployment. Remember that in both NATO and SEATO maritime wargames, even the RAF had to ask the carriers where they were in order to practice attacking them!

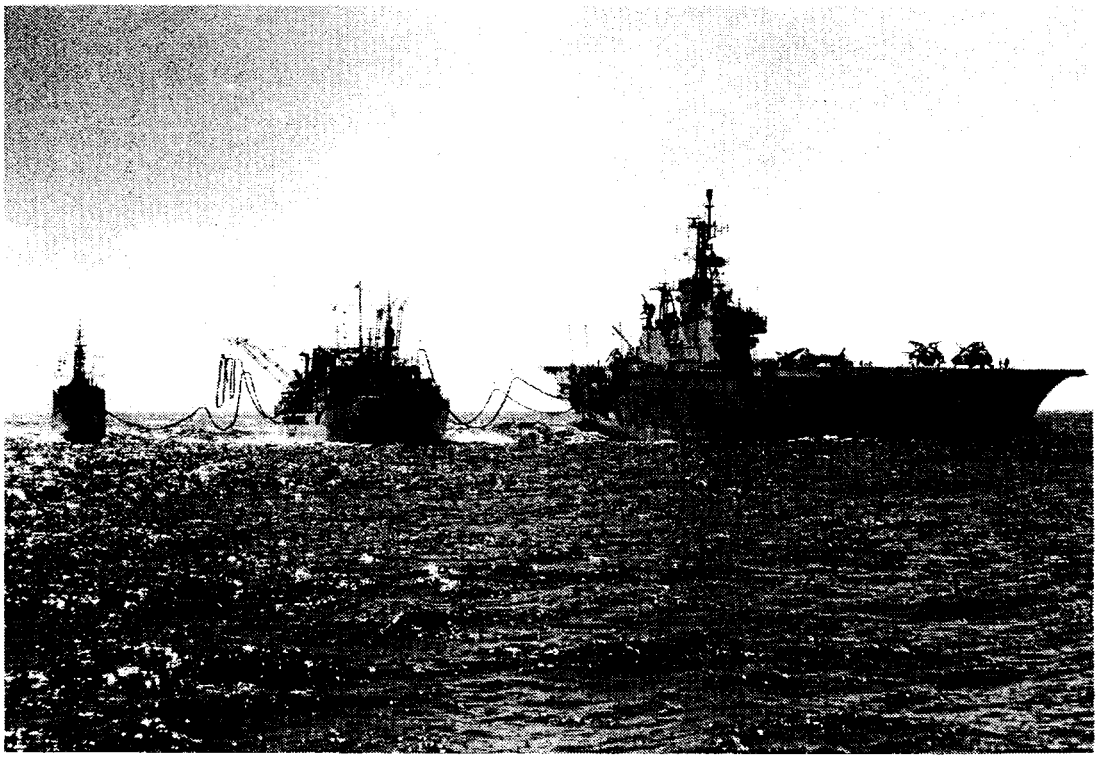
Aircraft carriers within their battle groups enjoy a better defence in depth than most western capital cities and the majority of shore air bases. The force has the ability to move at high speed and to manoeuvre at short notice; thus it can both evade and avoid attack. As nearly as any weapons system can be, they are invulnerable to asymmetric threats from ground forces and ballistic missiles. They can both choose and vary their area of operation, avoiding bad weather to keep flying or staying within it to deter enemy reconnaissance. The chosen area can give an optimal radius of action for tactical strike aircraft. Thus in the 1956 British operations against Egypt, only one third of the available strike aircraft were embarked in the carrier task force but they flew two thirds of the tactical missions. In operations over the former republic of Yugoslavia carriers manoeuvred to stay in clear air while NATO air bases in Italy were closed by weather. Task forces can change their position by 500 miles in twenty-four hours and, in so doing, vary their approach to targets. Task forces contain their own support in the form of an Underway Replenishment Group (URG) and their effective operating period can be measured in months. They can concentrate or disperse at short notice to meet the nature of any threat or react to political instructions from Government. A land base cannot do so and the inability to withdraw it quickly might be politically embarrassing.

To attack an aircraft carrier, a potential enemy must have a significant reconnaissance capability in order first to detect the task force and then the carrier within it. With the number of hard and soft kill options available to the fleet, the use of the electro-magnetic spectrum by an enemy may not be enough to identify the high value unit and visual identification may be necessary to confirm the target, even today. The possibility of counter-detecting a carrier operating from an unknown area before it delivers its first punch is far from being a given. Should the carrier be hit, its size and construction make it difficult to disable. This was

shown by the ability of British Pacific Fleet carriers to withstand KAMIKAZE attack off Japan in 1945.

Aircraft carrier battle groups are essentially offensive and enemy forces that pose a potential threat can be attacked at source before that enemy can locate the group or plan an attack of his own. Any attack that does develop has to run the gauntlet of the layered and disparate defence systems and can expect to endure heavy losses. Do land bases enjoy a similar level of protection? The majority of Australian air bases, for example, are close to the coast and enjoy little in the way of layered defence. Some of the standby bases in the north are only manned by skeleton staffs in peacetime and present opportunistic targets for potential enemy or terrorist Special Forces, just like the British air bases in Malaya in 1941-42. The need to defend temporary expeditionary air bases against asymmetric attack is obvious and must lead to their definition as vulnerable.

In summary, the mobility of the aircraft carrier together with the sophistication and concentration of active and passive defences within a task force minimize the vulnerability of sea bases to any form of attack. By contrast, land bases are extremely vulnerable and have proved an Achilles Heel to military operations by both the Western Allies and the Axis since 1939. Statistics show that there is less operational risk in the deployment of an aircraft carrier task force than in the creation of an expeditionary air base. The sea base is, therefore, the least vulnerable option for the deployment of air power. With the extraordinary range of capabilities deployed by aircraft carriers, they commend themselves as options to maritime powers of every size. The increasing number of nations working on aircraft carrier projects therefore comes as no surprise.



ARK ROYAL ON THE BEIRA PATROL IN 1965