Transactions on the Built Environment vol 55, © 2001 WIT Press, www.witpress.com, ISSN 1743-3509

Degrees of physical adaptation: current uses of historic naval building types

C. Clark
University of Portsmouth, UK

Abstract

Historic naval buildings in dockyards across Europe, now redundant for defence purposes, present particular opportunities and challenges to appropriate reuse. Their specialised shapes and dimensions are important factors to what futures they can expect, as are location, funding policy, the surrounding land uses and the historic value placed on them. Adaptation proposals also need to be measured against various conservation criteria and degrees of intervention.

In this paper the outcomes of the interaction between cultural and physical constraints on reuse of generic dockyard building types in different European countries are examined. Their varying fortunes are set out according to their history, characteristics and degrees of permissable adaptation. Roperies, storehouses, sail lofts, boathouses, covered slips and wet docks, dry docks and basins are considered. There are of course difficulties of comparing like with like, buildings of different dates and dimensions, but analysis of adaptation of these typical dockyard types offers some general lessons and examples of different countries' responses to the challenge.

In Venice Arsenale, some important monuments have been restored for their own sake, reflecting local political culture, although many others await creative reuse. In Sweden historic naval monuments are excellently restored and kept in good condition, whether they have a current use or not, while Skeppsholmen in Stockholm and Karlskrona offer exemplary reuses of whole historic naval sites. In the UK navy buildings have usually been treated as utilitarian structures, to be radically altered to new uses, left empty or demolished. The advent of conservation in the 1970s perhaps prevented further demolition. Low key uses of storehouses, for example for archives, may mean minimum intervention, while intensive human use exposes them to the full rigour of modern building and safety legislation. A high degree of design skill is needed to conserve robust original structure in combination with clarity of insertions for new services and uses.

1 Degrees of physical adaptation: current uses of historic naval building types

Naval bases are essential to the exercise of sea power (Childs 1998:139). Dockyards are physical expressions of government foreign and defence policies (Riley 1999: 894); the development of power and prosperity in large parts of western and southern Europe was intimately connected to the strength and protection provided by national navies (Clark and Pinder 1999). National investment in navies and dockyard development mirrors and represents a nation's sea power, whether investment decisions were taken by absolute monarchs as in France and Spain, the Doges in Venice, admiralties in the Netherlands, or by specialised bodies such as navy, ordnance or victualling boards in the UK. Nations' trading and colonisation aspirations were set in operation through navies and in their dockyard bases, where the national fleet was built, equipped, and maintained. With their supporting ordnance and victualling yards and hospitals, they were sited according to political and naval strategy and geography: proximity to the enemy's ports, defensible sheltered anchorage, space for shore facilities, and access to workforces and supplies. Dockyards were often built as separate, defended entities, away from centres of towns or cities. In some cases, such as Rochefort, Karlskrona and Pembroke Dock, establishment of a dockyard required a new settlement to house the workforce. Earlier dockyards such as those in Göteborg, Oslo, Harwich, Deptford and Woolwich have been wholly or partly obliterated by civilian development, whereas others have remained centres of naval activity for centuries: Chatham, Portsmouth and Devonport, (known as Plymouth Dock until 1823), have been dockyard towns for three hundred years.

Their most important characteristic is complex industrial organisation, often on a considerable scale and from an early date. Specialised structures have accumulated on these key industrial sites over long periods of time. Now that war, their prime purpose, takes different forms, these specialised vintage ports may at last forsake their traditional hostilities for peaceful exchanges of regeneration experience. The enormous effects of cycles of war and peace on the specialised settlements of dockyard workforces that grew up around naval bases is beyond the scope of this paper, although what happens to the sites of former navy bases is vital to their economic future.

1.2 The naval legacy

The surviving buildings represent a unique legacy of fine architecture and engineering, as tangible and vivid survivors of long naval supremacies - in the galley, sailing, steam, gas turbine, and nuclear ages. Now redundant for defence purposes, historic naval buildings in dockyards across Europe present particular opportunities and challenges to appropriate reuse. Their specialised shapes and dimensions are important factors to determination of what futures they can expect, as are location, funding policy, the surrounding land uses and the historic value placed on them (Clark 2000). Adaptation proposals also need to be measured

against various conservation criteria, in terms of degrees of intervention and of sustainable long term reuse.

1.3 Experience in different countries

The differing fortunes of historic dockyards are best studied in relation to financial and statutory frameworks including planning systems, and to philosophical attitudes towards conservation and renewal. Now that war, their prime purpose, takes different forms, these specialised vintage ports may at last forsake their traditional hostilities for peaceful exchanges of regeneration experience, via, for example, the Rendoc and Navarch projects.

In most European countries there are defence heritage sites where aspects of the transition to civilian uses have gone well, and the buildings beneficially reused. Countries where redundant defence sites may be disposed of at nil, or low value, and which allow time for local determination of land use to emerge with the fullest public participation, appear to offer significant gains over the German and the British systems, which on the Treasury's insistence means that once land and buildings are identified as surplus, government departments must dispose of them within three years at maximum market price after obtaining optimum planning value. This process may result in land uses that are not necessarily what local communities need. Its short-termism militates against many longstanding conservation and environmental policies and good long term planning (Clark 1999). Defence Ministries, sometimes jointly with ministries of culture have maintained and made imaginative reuse of military and naval buildings. There needs to be acceptance that the revitalisation process is long term, and that public funds may be needed for new infrastructure. Local authorities in their planning, economic development, and in some cases developer roles, can, if their relationship with defence estates organisations and the local community is good, work creatively to bring these complex and difficult sites back into productive use. How is success in reuse to be measured? Measures of the extent of public access, proportions of buildings preserved, public and private housing units, job creation and new public facilities might be devised to compare the environmental, social and economic outcomes of dockyard and military site renewal.

1.4 The role of statutory conservation bodies in determining the future of defence heritage

Legal control of change and building conservation is a comparatively recent phenomenon. Until recently, with a few exceptions of national importance, when a naval building became redundant, it was redeveloped or drastically adapted to new uses, either by the navy or by new owners. An example in Britain is the clearance of most of the historic industrial infrastructure in Sheerness Dockyard after the sale in 1960. As modern concepts of history and cultural heritage evolved, protection and conservation of old buildings were introduced in different countries, first by inventories of monuments, then by legal protection of uninhabited monuments and buildings, by area conservation and growing intervention by public agencies, and

Transactions on the Built Environment vol 55, © 2001 WIT Press, www.witpress.com, ISSN 1743-3509

by an increasing integration of conservation with other local planning policies (Ashworth and Howard 1999: 42-52)

In most European countries a considerable legal apparatus has now been developed to protect the historic defence legacy from change as part of the planning system, although nationally owned monuments are not always included. As a subset of planning, there are perhaps three conservation traditions which affect the degree of physical change permitted in defence heritage buildings: northern European: Germanic and Scandinavian; the French and Italian approach, dominated by the ideas of Viollet-le-Duc and art historians which permits considerable replication[2]; and the Anglo Saxon school still dominated by the ideas of John Ruskin, William Morris and the Society for the Preservation Ancient Building which stresses respect for surviving fabric. It is pragmatic, based on case law and only allows for maintenance and conservation (Ashworth and Howard 1999). Within this third tradition, there are perhaps two variations. UK conservation practice is dominated by central government, with government agencies' guidance on local authority planning practice: in administrative terms, top down. In contrast, in the US conservation practice is grassroots or bottom up, controlled by local historic district boards; while Irish local authorities have their own listing, although it does not carry a lot of protection (Rorke 2000; Kealy 1999). These different traditions affect the degree of permissable physical change and thus the achievement of beneficial reuse, explored further in the next section.

Different countries have different emphases and degrees of protection. It is also worth pointing out that some European countries are more 'conservation minded' than others, as Ashworth's table of numbers of monuments in various countries related to population (Ashworth and Howard 1999:56) demonstrated. For example, modern buildings may take considerable time to be accepted as part of the heritage canon. Ashworth and Howard (1999:47) detect a 'forward creep' in the qualifying period for monument status, but this varies from culture to culture. In some countries such as Belgium and Ireland structures under a hundred years old are not yet recognised as heritage (Linters 2000), while Germany and the UK list buildings in specific categories as recent as thirty years old.

Lack of legal status does not preclude reuse. The ropery of 1934 in Turku and ship-yard hall of 1928 have been elegantly converted into a music school, maintaining and enhancing the feeling of space and keeping the original structure intact. 'At the heart of the vast space now floats a concert hall of glass, poised only a few metres apart from the great rusty riveted columns of the old structure, while the new foyer is suspended from the overhead cranes.' (Bell 1997). In contrast, the huge steel framed Boathouse No. 4 in Portsmouth Dockyard of 1938/9 with its integral cranes, the largest building in the Naval Base Heritage Area in Modern Movement style is under threat of demolition because its owners, the Naval Base Property Trust, intend to redevelop the site, possibly to relocate the Tudor warship, the Mary Rose. It represents the final period of building of the nineteenth century boathouses which are its immediate neighbours; an increasingly rare survivor of the rearmament programme leading up to the outbreak of the second world war, when the fourth side was left unfinished. It was purpose-built for the maintenance and fitting out of small motor craft of up to 40 tons. There is direct access to the sea

with doors that open to a dock 80 feet by 51 feet where craft could be lifted out. To remove the mid-twentieth century's contribution to the heritage area which also has conservation area status, would in the view of those who wish to save it, demonstrate a very narrow view of what is worthy of conservation. To say that it is out of scale with the adjacent eighteenth century storehouses - also under threat of demolition thirty years ago - straightjackets definitions of heritage of what is nationally a key industrial area into too small and pretty a mould, when its real character is as a sober working place. As Coad points out:

> 'Dockyards are an amalgam of good, bad and indifferent architecture where it is the totality that is often so important. The huge pre-war No. 4 Boathouse at Portsmouth dominates its 18th and 19th century surroundings but it is far more a part of the dockyard history than any modern building which might replace it. Heritage in such a context might be about finding new uses for all buildings.' (Coad 1993).

Other utilitarian structures such as air raid shelters, penstocks, capstans, railway lines, drain covers, mooring rings, paving may all be swept away, losing the texture of a working, war-orientated place. The Council of Europe recommends protection and conservation of twentieth century industrial, technical and civil engineering heritage. But twentieth century dockyard buildings and industrial archaeology - from cranes and capstans to small textural details such as paving or mooring rings - may still be regarded as utilitarian and dispensable, not yet having attained the status of heritage..

Tourist-reorientation may produce quite different physical interventions, perhaps too symbolic for some of the change of use. Portsmouth Heritage Area's new landscaping, replacing tarmac and railway lines with expensive stone and gravel 'bears as much relationship to the historic dockyard as a golfcourse does to real countryside' (Campbell McMurray 2000). Places long dominated by defence have particular social and physical characteristics which make change to new roles particularly difficult and sometimes contentious.

1.5 Maintenance and disposal

The Swedish National Property Board is responsible for management of state property including naval buildings and redundant fortresses as well as forests and mountains. It works on a commercial basis and for the benefit of its tenants. In Norway the Norwegian Defence Construction Service, like the UK's Defence Works Services Estates Development Group, has a special department responsible for military heritage. It has, with the Directorate for Cultural Heritage and the Norwegian Defence Museum, identified a list of buildings and fortifications of special historic or architectural interest, which includes medieval fortresses, C17 and C18 forts and buildings, late C19 and early C20 camps, batteries and forts, and a large number of remains from the German occupation of 1940-45. Historic buildings at Fredriksvern and Karljohansvern are on a list last updated in the 1960s.

Both places and several new buildings are listed in a national overview of military heritage, which means that they should be considered as protected heritage buildings and areas, but they have no legal protection, presumably because of a similar provision to the British Crown exemption. The Directorate for Cultural Heritage is shortly to take steps to give several of the buildings legal protection. At present all changes, interior or exterior, must be approved by the Directorate of Cultural Heritage. The Norwegian government in general scrutinises changes to heritage buildings carefully, but it has permitted some changes necessary to new use of the building, since new activity in redundant buildings is encouraged. In contrast, Sweden gives sole responsibility for historic buildings to heritage ministries.

1.6 The effect of conservation legislation

Conservation regulations may either inhibit or enable the creative reuse and investment into defence buildings, vital to bringing them to sustainable new life. An important variable for reuse potential is whether new structures are allowed to impinge on older fabric, and whether the strictness with which this is applied is related to the age of the original. The conservation authorities in Italy exert a stricter control over change to historic buildings than English Heritage: in Venice Arsenale no new structure is allowed to impinge on either walls or roof of historic buildings of any date. This directive applies equally to the comparatively modern and utilitarian 1911 foundry building in the northern extension of Venice Arsenale, as to the ancient Gaggiandre (1568-73) and Corderie della Tana (1577-83). At the insistence of the Soprintendente al Beni Architettonici e Ambientale di Venezia the Thetis Institute has built a completely free-standing new structure of workshops, offices and laboratory inside the foundry, which could be removed. English Heritage would perhaps be more flexible over a comparatively modern building.

1.7 Heritage and museum and development

Development into museums may seem the most appropriate use for the most important sites. To preserve and celebrate these complexes as symbols of a great military or naval past means that they can continue to embody national identity, albeit in a new, historical, role. Historic dockyard buildings have sometimes been successfully adapted to museums: eg Amsterdam, Portsmouth and Chatham. This use provides the opportunity for continuity between past and present: their symbolic and cultural value as physical embodiments of a great naval past may evolve into a new nostalgic or heritage role. Heritage and building conservation are often conflated as concepts, but they are of course parallel and related activities (Ashworth 1991). However, the physical constraints imposed by existing structures are sometimes seen as serious inhibitions to modern museum development, or the magnificence and scale of the building may overwhelm the collections. An example of this is Barcelona's lofty thirteenth century Gothic shiphalls, since 1938 the Museo Maritimo (Clark 1997). Another factor is building condition before transfer to new uses. Where the funding of maintenance of defence heritage remains with

the military as in the UK but not in some other countries, current defence imperatives are bound to have priority over upkeep of the morphological remains of the military and naval past.

1.8 Specialised buildings

As public assets defence buildings enjoy high standards of design and construction. They are on the whole inherently robust and adaptable to change. According to Douet (1998) in some cases change and adaptation *were* the character of military sites: foundry to beer storage (Portsmouth); or to cinema (Venice); ordnance storage to office (Morice Yard Plymouth); covered slip to squash court (Venice), railway station to yacht repair (Royal Clarence Yard Gosport), prison to school of music (Portsmouth)...The military often reuse their buildings many times, and when released, civilians add new uses to the list. An example is Portsmouth Square Tower, which guards the harbour entrance, which in turn has been: defensive fortress, governor's residence, gunpowder store, meat store, semaphore signalling station, museum, party venue.

There are perhaps three categories of new activity for redundant dockyard buildings:

- buildings where the most suitable use is close to the original: rope-making, ship building or repair, flag and sail making and other marine activity;
- buildings that are central to the historic character of the site, where the new use is often directed towards 'heritage': museums or interpretation: tourist related activity;
- buildings whose large uninterrupted spaces may offer scope for residential, office or small industrial or commercial enterprises - at certain environmental costs, such as sub-division, the insertion of new patterns of circulation, services, means of escape, fire precautions, and upgrading of the internal environment to match modern expectations of comfort as well as to comply with present day regulations.

The sober working character of these buildings needs to be respected in adaptation. The principle that the original use is usually the best may not always apply, either because the technical demands of processes have changed dramatically or because conservation of the original fabric and reversibility may make insertion of modern facilities difficult. An example is goods storage, especially when palletised, which require high floor to ceiling heights and access by fork lift trucks. Mr. Jefferson, the British Director General of Design Services at the Property Services Agency said in 1994 "The best use for an historic building is generally its original use. However, even the original use by name may have been so radically transformed in nature as effectively to constitute a new use. For example, naval stores in the Royal Navy Dockyards are no longer manhandled by large gangs of men, with minimal help from blocks and tackle; they are whisked around by a few individuals in fork-lift trucks. Finding uses for historic buildings presented the PSA with major difficulties" (RSA 1987: 42).

The degree of acceptable change perhaps needs to be related to the importance of the building. Particular cases cases may be analysed according to degrees of

intervention for example, those of Feilden (1962), ranging through prevention of deterioration to reproduction and reconstruction, as happened in the reconstruction of the bombed clock tower and cupola of No. 10 Storehouse in Portsmouth. In Feilden's view these interventions nearly always involve some loss of 'value' in cultural property, but are justified in order to preserve objects for the future.

1.9 Physical characteristics

Some characteristics of military buildings make reuse comparatively easy. Buildings with columnar structures provide a physical grid for the organisation and reorganisation of space (Brand 1994). Those with large spans eg drill halls, covered slips, storage sheds and ship repair shops offer large volumes of uninterrupted space to new users. But others are more inflexible. Stores buildings designed for keeping objects may need considerable physical intervention for use by humans eg more windows, ventilation, heating, lighting, fire precautions, means of escape...because of their deep plan and lack of services. Dockyard buildings' specialist nature: ropewalks, ammunition stores, gunnery ranges, gunpowder works related to particular military and naval cultures now obsolete may make reuse difficult. Extreme ingenuity is called for if they are to survive as structures. The usual dictum that the best use is closest to the original one cannot often be sustained. Industrial uses need to be small scale or traditional. Chatham Ropery may be the exception, in that ropemaking continues, but although ropes are made by traditional methods as a demonstration to tourists on the ground floor, the upper floors being used for commercial methods. Even so, profit margins are slim. Sometimes a close approximation to the original use, for example the Royal Naval School of Physical Training in Portsmouth is now a civilian gymnastics centre, a cheaper, higher (for trampolinists) and more flexible facility for gymnastics than the new HMS Temeraire which replaced it. The city of Ghent's military sports hall which is now a dance and gymnastics centre with glitzy modern banks of seating and restaurant above is another excellent example the new activities just close enough to military drill not to need too drastic a change. The new activities just close enough to military drill not to need too drastic a change.

1.10 Adaptability; insertion of new services

The longevity of buildings is often determined by how well they can absorb new services (Brand 1994), and here the operation of conservation law and practice may either enable or inhibit change. Imaginative reuse may see physical constraints eg the great length and narrowness of ropewalks as a virtue. Turku's conversion of a ropery into practice cells for a music conservatoire won a Europa Nostra prize. On the other hand, subdivision of the East Ropery, Devonport into crafts workshop/sales places on the other hand did not happen because the need to secure each unit conflicted with the stipulation by English Heritage that the building's uninterrupted length was paramount. Major repair without unnecessary compromise to historic character has sometimes been achieved in barracks and naval hospitals such as Stonehouse Hospital in Plymouth. Heavily walled defence sites attract those

who value high security. The Defence Land Agent set up a Marine Business Park within South Yard Devonport which attracts bonded stores and other high value storage.

1.11 Degrees of physical adaptation: tables of current uses of defence building types

Military buildings' specialised shapes and dimensions determine the particular opportunities and challenges they present for reuse, which need to be measured against various conservation criteria and degrees of adaptation. may present particular challenges to reuse. Table 1 examines the outcomes of the interaction between cultural and physical constraints on reuse of generic dockyard typologies. It sets out the varying fortunes of five dockyard building types, according to their characteristics and the degrees of permissable adaptation, but, as Riley (1999) points out, conservation legislation also is subject to interpretation and change through time. There are of course difficulties of comparing like with like, buildings of different dates and dimensions, not to mention the different surrounding land uses. Location and investment policy will also have an effect on investment decisions.

Table 1 Analysis of dockyard building types related to degrees of adaptation

Building type Location Roperies	Date & Characteristics	New use	Degree of adaptation	Client
Corderia della Tana Arsenale, Venice	1577-83 315m long, side aisles upper floor, brick	Biennale and other temporary exhibitions	Slight	Biennale City of Venice
Double Ropehouse Portsmouth	1776 1030' x 57' Three storeys, brick	Storage Most unused?	1950s: severe: floors and roof removed: only sidewalls remained in drastic rebuilding + lateral divisions	MOD
Double Ropehouse Chatham	1787-1792 1128' long Three storeys, brick	Ropemaking - by traditional and modern methods; interpretation	1990s:Exterior restored; modern lighting and means of escape	Chatham Historic Dockyard Trust
Hemp House Chatham	1728: oldest surviving rope yarn building in British dockyard	Interpretation; storage	1980s: Exterior restored; modern lighting and means of escape	Chatham Historic Dockyard Trust
East Ropery, Devonport, Plymouth	c.1766 1,200' long Fireproof construction: stone and cast iron. Burnt out and rebuilt 1814 with	Occasional exhibitions Storage	1980s: Exterior restored	Ministry of Defence

	additional storey One third destroyed by bombing WW2			
Spinning, Tarring and Wheel House and Tarred Yarn Houses, Devonport	C18 limestone walls with ashlar dressings	Storage?	1980s:Exterior restored	Ministry of Defence
Repslagarebanan Karlskrona	1692-1693 Timber construction, ornamental brick ends, tiled roof	Unused: machinery removed	Good condition	Swedish Armed Forces?
Storehouses				
Cappanone Venice	1544 Brick vaults, Istrian side columns, timber and tile roofs	Serious decay: most unused,except for two for Vaporetto repair; one fully restored by Thetis Research consortium as marine research workshop	None, except for the three in use	Ministerio di Difesa Thetis Consortium
Inventariekammaren "Siverhuset" Karlskrona	1786 rendered stone	Still in use as navy stores	?	Swedish Armed Forces
Storehouse 9 Portsmouth	1764 three storey brick with cellar	Ground floor restaurant and shop Three floors and cellar unused	1975: Ground floor opened as pedestrian colonnade	Portsmouth Naval Base Property Trust - lease to Royal Naval Museum
Storehouse 10 Portsmouth	1776 three storey brick with cellar; half of roof burnt out in 1941; reinstated 1950s with modern light weight roof	Ground and first floor museum Rest unused	" Replica clocktower/Cupola 1993	Portsmouth Naval Base Property Trust - lease to Royal Naval Museum
Storehouse 11 Portsmouth	1776 three storey brick with cellar. Lily Lambert McCarthy collection in half of ground floor 1972: false ceiling and new floor	Museum use: three grades of storage: robust, intermediate and environmentally controlled; offices	Full restoration 1998. Insertion of glasswalled lift and new escape stairs, reception room	Portsmouth Naval Base Property Trust - lease to Royal Naval Museum
Portsmouth Grand Storehouse/Vulcan HMS Vernon/Gunwharf	1811 Brick with deep foundations and cellar because of construction on reclaimed land.	Unused since 1950s	Clocktower and north wing removed in 1950s. Condition very poor. Repaired 2000 as part of	Berkeley Festival Waterfront Company

			redevelopment for leisure/shopping Planning permission for reinstatement of north wing as residential; rest: use uncertain	
Clocktower Building Chatham	1720s brick; wide timber trusses to allow uninterrupted spans	Rebuilt 1805; converted to office and Churchwardens' College	Restored	Chatham Historic Dockyard Trust
Anchor Storehouses Chatham	1785-1805 brick Very large building	Archive and document store	Minimal	Chatham Historic Dockyard Trust
Sail lofts				
Colour Loft Chatham	1717	Colour loft and workshops	Restored	Chatham Historic Dockyard Trust
No.2 Ship Shop Portsmouth	1848 Long narrow red brick block with Portland stone dressings in two arcaded storeys; sail loft above machine shop for assembly of reciprocating steam engines	Compartmentalised as offices	Exterior restored; interior subdivided	Ministry of Defence
Boathouses				
No. 6 Boathouse Portsmouth	1845-8 built as mast house by mastpond of 1665. Three storey yellow brick, massive cast and wrought iron framed structure	Rear bomb damaged 1941. Converted 2000 to modern navy display. Institute of Maritime and Heritage Studies second floor	Conversion 1999-2000. Part demolition of roof; inserted escape stairs and lecture theatre	Portsmouth Naval Base Property Trust
No. 7 Boathouse Portsmouth	1885 Timber structure on piles in mastpond	Restaurant, shop, dockyard crafts display, education area	Reroofed, insertions kept low to preserve sight lines; evidence of industrial use still apparent on floor	Portsmouth Naval Base Property Trust
No. 4 Boathouse Portsmouth	1938/9 Steel framed, horizontal bands of windows on three sides. Four integral cranes; lockgate to small dock	Storage and boat and artefact repair	Under threat of demolition: in need of repair. Mastpond lockgates reinstated within Boathouse 4 in	Portsmouth Naval Base Property Trust

Boathouse, Sheerness	1856 by Henry Greene: the earliest multi-storey Boatstore	?	2000 ?in poor repair Under threat of demolition?	Sheerness Freeport
Covered Slips and Wet Docks				
Tesoni Gothici Venice	1457	Unused	Restored 1998-2000 by Ministero Beni Culturali	Ministero di Difesa
Bucintoro Venice	1544-47	Repair of racing gondolas	Restored	"
Gaggiandre Venice	1568-73	Occasional use for boat repair	Restored	"
Vasakjulet Karlskrona	1780	In use: small boat repair	Restored	Swedish Armed Forces
Stone Slip; Roof, South Yard Devonport, Plymouth	1774-5 1814	Past casual use: Wingsail	New zinc roof, restored by English Heritage	Ministry of Defence
No. 3 Slip Chatham	c. 1838 Timber roof	Occasional commercial use, museum display	Reroofed and restored with English Heritage grant	Chatham Historic Dockyard Trust
Nos. 4 and 5 Slip Chatham	c. 1756; iron roof 1847/8	Occasional commercial use; museum display:lifeboats		Chatham Historic Dockyard Trust
No. 6 Slip Chatham	Slip 1732-4; iron roof 1852-5	Storage		Chatham Historic Dockyard Trust
No. 7 Slip Chatham	Slip 1772-4; steel roof	Storage	End bay taken off c. 1900; reinstated 1999-2000 to add to stability of structure	Chatham Historic Dockyard Trust + help from English Heritage
No. 3 Ship Shop Portsmouth	1845 prefabricated iron structure		Demolished 1973	Ministry of Defence
Dry Docks and Basins				
Polhem Dry Dock Karlskrona	1716-1724 Cut into rock	In occasional use for ship repair	Restored	Swedish Armed Forces
Great Ship Basin/No.1 Basin Portsmouth	1689; enlarged 1795-1801, fitted with caisson gate;			Ministry of Defence
Associated docks: No. I Dock	1801	In use for restoration of HMS Minerva 1917		Naval Base Property Trust

		belonging to Hampshire County Council		
No. 2 Dock	1802	In use as permanent base for HMS Victory since 1922		Ministry of Defence
No. 3 Dock	1803	Mary Rose, Tudor warship hull housed in temporary building		Ministry of Defence, leased to Mary Rose Trust
No. 4 Dock	1772	Unused		Ministry of Defence
No. 5 Dock	On site of Great Stone Dock 1691-98	Unused		Ministry of Defence
No. 6 Dock	1700 formed in entrance to North Basin, converted to reservoir in 1772	Unused	In need of repair	Ministry of Defence

Table 1 shows that in Italy and sometimes in the UK (Plymouth covered slip), important monuments are restored for their own sake, reflecting local political culture. In Sweden historic naval monuments are excellently restored and kept in good condition, whether they have a current use or not. However in the UK, navy buildings have usually been treated as utilitarian structures, to be radically altered to new uses or left empty. The Crown exemption continues to exempt new interventions by the Ministry of Defence from control by local and central government, precluding local authority intervention for example by serving repairs notices on decaying unused structures. The advent of conservation in the 1970s perhaps prevented further demolition, except perhaps in the case of No. 3 Ship Shop in Portsmouth. In the heritage areas of Portsmouth and Chatham new site managers and users have adapted the now preserved structures for new uses, with substantial financial help from English Heritage, lottery and Millennium funds. Low key uses of storehouses, for example for archives, may mean minimum intervention, while intensive human use exposes them to the full rigour of modern building and safety legislation. A high degree of design skill is needed to conserve robust original structure in combination with clarity of insertions for new services and uses.

2 Conclusion

Tunbridge and Ashworth (1992) have little cause to revise their view that naval port revitalisation is 'an important [arena] that has so far received scant attention'. Study of practice in Europe might beneficially be compared in detail with that in the US. Clearly, to be of use in a number of different European countries, much more cross-cultural research on historical development and post-defence activity is needed. Civilian waterfront paradigms may not be appropriate to revitalisation of naval

waterfronts. Industrial and commercial developments may undervalue or even destroy historic buildings. Short-term successor bodies such as Plymouth Development Corporation can rarely do more than begin the revitalisation process. Major state subsidy, direct or via agencies such as regional development in the UK or the Swedish National Property Board is often needed to tackle long term decay as well as conversion. Innovative practice needs to be studied in more detail. Further research along these lines should offer benefits to policymakers. The need to restore with respect what are architecturally outstanding urban environments poses major challenges of aesthetics, management, funding and values. Strategies need to be developed to ensure that the new uses effectively balance economic rejuvenation and heritage conservation. This transition stage is just one in the organic growth and development in the life of very special places. Despite their shared history as centres of war and defence, historic European dockyards have in recent years followed different paths towards different futures, which involve greater or lesser degrees of demolition or building reuse. It is clear that successful regeneration of these complex sites with their specialised geography and history can only be achieved by longterm effort and purposeful interaction between many local and national agencies, including those controlling degrees of physical intervention, and local people.

References

Ashworth GJ *War and the City* Routledge London 1991

Ashworth GJ and Howard P eds. *European Heritage Planning and Management* Intellect TM Exeter 1999

Bell I *The Historic Scotland Guide to International Charters* Historic Scotland Edinburgh 1997

Brand S *How Buildings Learn - and What Happens After They're Built* Viking Penguin Books 1994

Childs J *The Military Use of Land: A history of the defence estate* Peter Lang AG Bern 1998

Clark C 'Vintage Ports: the Transition of Historic Dockyard Buildings to Civilian Uses' *Stremah 97:Structural Studies, Repairs and Maintenance of Historical Buildings* Wessex Institute of Technology Ashurst 1997

Clark C *Vintage Ports or Deserted Dockyards: differing futures for naval heritage across Europe* University of the West of England Working Paper 57 July 2000 116pp

Clark C 'The Reuse of the Georgian Storehouses of Portsmouth - naval storehouse to museum' *Naval Dockyards Society Third Annual Conference March 1999* Portsmouth 2001

Coad J *The Royal Dockyards 1690-1850 Architecture and Engineering Works of the Sailing Navy* Royal Commission on the Historical Monuments of England Scholar Press Aldershot 1993

Douet J *Homes Fit for Heroes English Barracks 1660-1914 Thematic List Review Report* English Heritage London 1998

Feilden B *Conservation of Historic Buildings* Butterworth Scientific 1962
Linters A Flemish Association of Archaeology Interview with C Clark February 2000
Kealy 'Progress and contradiction: Reflections on developments in policy and practice in urban conservation in Ireland' *RICS Building Conservation Journal* Autumn 1999
MacMurray C Director, Royal Naval Museum at unveiling of Portsmouth Society Best Restoration Plaque May 31 2000
Riley RC 'A model-based approach to unravelling naval defence heritage;supply-side and demand-side issues in Portsmouth's coastal zone' *Ocean and Coastal Zone Management* Vol. 42 Numbers 10-11 Elservier 1999
Rorke Duchas: Irish Heritage Service Interview with C Clark May 2000
Royal Society of Arts - Cubit Trust Panel *The Future of the Public Heritage* Royal Society of Arts London 1987
Tunbridge and Ashworth 'Leisure resource management in cityport revitalisation: the touristic-historic dimension' in Hoyle BS Pinder DA eds *European Port Cities in Transition* Belhaven London 1992