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Ships – Inspiring Objects in Architecture

Elzbieta Marczak¹

¹Faculty of Architecture, Gdansk University of Technology, Narutowicza Street 11/12, 80-233 Gdansk, Poland

epal@pg.gda.pl

Abstract. Sea-going vessels have for centuries fascinated people, not only those who happen to work at sea, but first and foremost, those who have never set foot aboard a ship. The environment in which ships operate is reminiscent of freedom and countless adventures, but also of hard and interesting maritime working life. The famous words of Pompey: “*Navigare necesse est, vivere non est necesse*” (sailing is necessary, living – is not necessary), which he pronounced on a stormy sea voyage, arouse curiosity and excitement, inviting one to test the truth of this saying personally. It is often the case, however, that sea-faring remains within the realm of dreams, while the fascination with ships demonstrates itself through a transposition of naval features onto land constructions. In such cases, ship-inspired motifs bring alive dreams and yearnings as well as reflect tastes. Tourism is one of the indicators of people’s standard of living and a measure of a society’s civilisation. Maritime tourism has been developing rapidly in recent decades. A sea cruise offers an insight into life at sea. Still, most people derive their knowledge of passenger vessels and their furnishings from the mass media. Passenger vessels, also known as “floating cities,” are described as majestic and grand, while their on-board facilities as luxurious, comfortable, exclusive and inaccessible to common people on land. Freight vessels, on the other hand, are described as enormous objects which dwarf the human being into insignificance. This article presents the results of research intended to answer the following questions: what makes ships a source of inspiration for land architecture? To what extent and by what means do architects draw on ships in their design work? In what places can we find structures inspired by ships? What ships inspire architects? This article presents examples of buildings, whose design was inspired by the architecture and structural details of sea vessels. An analysis of these examples formed the basis for an evaluation of the impact of this inspiration on the shaping of public spaces and the aesthetic aspect of architectural structures.

1. Introduction

The new language of models which is now being crafted by present-day architects bases itself on unrestrained self-expression through form in order to engage the viewer. Equal in status to form and structure, function would express itself over the ages through diverse architectural styles, but has lost its significance ever since. Buildings serve a specific purpose, but their form is a composition of geometric bodies, planes and lines, which transcends well-known moulds. Technical advancement witnessed in the construction industry in the last two centuries has led to an explosion of diverse architectural forms with a strongly visible emphasis on individuality. The form of a building is indicative of the prestige and socioeconomic status of its investor, owner or institution residing within.



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“We can distinguish two principal ways of looking at architecture. The first involves an evaluation of a building for its utility value, while the second relates to the vision that it creates, to the manner in which it plants itself in our minds, to the way in which it is felt and remembered” [1]. The design of a building represents the architect’s response to client-investor wishes, demands set out in the utility specification and the local requirements applicable in the place where the building is supposed to stand. In moulding the form, architects draw on the viewer’s perception by applying an idea transposed, in a more or less obvious way, onto the outer appearance of the structure. This is because the viewer’s visual perception of a building is shaped mainly by that building’s semantic layer.

Everyone perceives an object through his/her knowledge as well as perceptive and cognitive abilities. In interpreting an architectural structure, we rely on our knowledge and imagination. Our interpretation of the idea contained within its form, however, is not always consistent with the architect’s intentions.

2. Ships as a source of inspiration

Inspiration is a phenomenon inextricably connected with creative thinking. Inspiration is tapped by creators who need something new to reflect upon, something to fuel their creative process. Inspiration is not defined in its role as a factor stimulating the creative process. Inspiration may be found in different places by each artist, e.g. in nature, an impressive object, a situation in which they find themselves or an experience brought to them by a book they once read. For an artist who needs it, inspiration is a look-and-find activity in search for novelty, serving as a leitmotif and a template for creative solutions.



Figure 1. The bow of a ship placed as a decoration above the side entrance to the building of the Gdansk University of Technology, Poland



Figure 2. The man holding model of ships as a decoration above the side entrance to the building of the Gdansk University of Technology, Poland

Designing a building is a creative process requiring the designer to express his / her thoughts through an idea. This does not mean that an idea contained within an object must be complicated or sublime. A simple concept is very often sufficient to support an entire design and infuse it with expression that will evoke positive emotions in viewers [2].

Sea-faring vessels are among the sources of inspiration which fascinate people. In the past, the ship motif appeared mainly in structures located in seaside towns, whose inhabitants were engaged in activities connected with the sea. Buildings were decorated with elements characteristic of ships, or effigies of ships, to emphasise their relationship with the sea or a long-standing tradition of sea trade. These were usually sculptures, bas-reliefs or paintings. Facades and interiors featured rich ornaments symbolic of the local identity. A case in point is the building of the Gdansk University of Technology whose exterior decorations also feature ship motifs and other marine elements. References to the sea in architectural details feature prominently in the entrances to the building – the central portal and side entrances: a ship bow with an anchor at entrance 1a lighthouse at the side gate, a compass, line, ropes and buoys (Figure 1). The main portal enshrines a male character holding a ship model in full sail (Figure 2). The rich marine symbolism of the building, reminiscent of the local maritime culture, praises the

products of technology while also serving as a reminder of the ties connecting Gdansk with the sea since time immemorial. *“The symbolism applied on the side gates is distinguished by its opulence and multiplicity of meanings. The sculptures feature technically sophisticated components which have had a considerable influence on the history of humankind”* [3].

The main building of the Gdansk University of Technology is one of the many examples of monuments decorated with marine imagery to stress the city’s rich tradition of sea trade. The heritage buildings of each seaside town offer a variety of buildings decorated with maritime details.

3. Reinterpreting the form of a ship in architecture

“When a building expresses another building or when specific architectural elements serve as quotations of other places and structures, this is what we call architecture within architecture” [4]. The reinterpretation of existing buildings or structures in contemporary constructions enriches architecture. This relates to transposing elements of a building onto a different architectural structure. But this may also refer to transposing elements typical of ships onto civil engineering objects. Subtle, discreet references may become a hallmark of architectural or spatial planning projects. This is exemplified by Gdynia which is known as the most maritime of all Polish cities. This relatively young city uses the following words for its motto: *“A city of the sea and dreams.”* The spatial planning scheme came into being simultaneously with the erection of the harbour, whereby the city and harbour composed to form a whole [5].



Figure 3. The City Hall building (originally the headquarters of the Social Insurance Company, then the seat of the Polish Ocean Lines, Gdynia, 10-ego Lutego street, Poland



Figure 4. BGK residential complex, Gdynia, 3-ego Maja street, Poland



Figure 5. Polish Seafarer’s Home (now, the Department of Navigation of the Maritime Academy), Gdynia, Jana Pawła II street, Poland, Photo by K. Kowalska

The street grid in the city centre with its uniform architectural design was to make Gdynia into a showpiece of Poland as a maritime country. This was demonstrated in the use of uniform architectural details inspired by naval architecture. These include rounded corners reminiscent of hulls, round windows modelled on portholes, protruding parts resembling bridges, masts, as well as bright colours. The buildings in the centre of Gdynia, which appeared in the 1920s/1930s, earned the label of “white architecture” and made the city famous for its architectural design. Its style is described as “Gdynia modernism” (Figure 3, 4, 5).

Long-established naval motifs of long-standing presence are carried over into Gdynia’s modern design work. Rounded corners are still in vogue both in residential buildings (Figure 6) and public utility

facilities (Figure 7). A slightly different approach is presented by the Batory Shopping Centre (Figure 8), where one part of the building has the form of a hull, while the interior features bridge-like link ways.

Gdynia's buildings, those of modernist style and recent origin, exemplify subtle attempts to reinterpret the ship form and shape the viewer's perception in a positive way.



Figure 6. Residential building, Gdynia, Derdowskiego street, Poland



Figure 7. Office building, Gdynia, Władysława IV street, Poland



Figure 8. Batory Shopping Centre, Gdynia, 10-go Lutego street, Poland

Present-day architects take a dim view of ornamental overkill in their designs, and even speak about its dangers [6]. However, the popular tendency to decorate buildings has remained, with naval references appearing, to a larger or lesser extent, in the outer form of buildings.



Figure 9. Apartment building, Gdynia, Chwarznieńska street, Poland



Figure 10. Public utility building, Gdynia, Stryjewskiego street, Poland

The round window resembling a porthole is a commonly recurring, popular naval reference which appears in present-day buildings. The round window is used regardless of its actual function or the size and location of the building (Figure 9, 10).

The semantic layer of the form of the building is most noticeable in public utility buildings. These facilities are intended for a large number of users and thereby engage in a kind of dialogue with their surroundings and viewers. The message planted within the building by its designers is more or less obvious. It is up to the viewer/user to attach value to the semantic layer and evaluation upon the

congruity of form and function. Each architect always faces the problem of how to incorporate new elements into the existing space. Using ship inspiration often helps to put an object in a context.

NEMO Science Centre is one of the most recognisable buildings in Amsterdam. Designed by Renzo Piano, the building resembles the hull of a ship which has laid anchor in the middle of the city. The ship-inspired form provides an interesting dominant, including also with regard to its colour. The building towers over its surrounding. Its roof, sloping down in steps, is a terrace used as a meeting place by tourists and locals alike. The building has an unusual location. It arches over the entry to an underground tunnel running beneath the IJ river, and connects the southern and the northern parts of the city. This location makes the building look as if it is emerging from the water (Figure 11).



Figure 11. NEMO Science Centre, Amsterdam, Holland



Figure 12. Vasa Museum, Stockholm, Sweden. Photo by P. Marczak

Among many famous buildings in Stockholm, the Vasa Museum is especially worthy of mention. The form of the buildings modelled on the ship's hull, with its masts visible from far away, houses a reconstructed model of the Vasa ship which sank in 1628 when on its first voyage. The architects from MånssonDahlbäckArkitektkontor designed the building to look like a ship resting at anchor by the embankment (Figure 12).

In both cases, the reference to a ship hull is clear but not exaggerated. The new function of the hull does not interfere with the viewer's perception of it as a real vessel. The architects intended to transpose the form of a ship onto the form of the building, while also emphasising the relationship between the function and form of the building.

Contemporary Art Museum in Oslo designed by an Italian architect Renzo Piano utilizes the location and its components to build up a local context to lend the building a form consistent with the buildings nearby. The sail-shaped roof stretches over two wings of the museum building, welding them together, alluding to its location by the water (Figure 12).



Figure 12. Contemporary Art Museum, Oslo, Norway. Photo by P. Marczak

Each city wants to have a building which will not only act as a reflection of our times, but also as a unique symbol of the city itself to distinguish it from other cities. The application of rich symbolism is seen in the European Solidarity Centre in Gdansk, in which its designer – Wojciech Targowski – has used cultural context. Its location within the former shipyard area is emphasised by the building's exterior resembling steel sheeting waiting to be used in ship construction. Also, the elevation in the form of large-size "rusty" COR-TEN steel plates also evokes mental associations with the construction of a



ship. The form the building, resembling a ship under construction when viewed from Jana z Kolna street, is the architectural dominant which pointedly stands out against the cityscape (Figure 14 a, b).

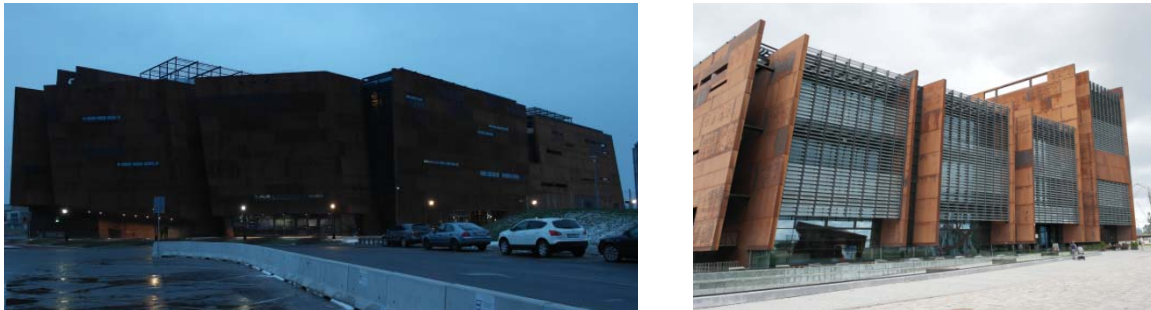


Figure 14 (a) (b) European Solidarity Centre, Gdansk, Photo by P. Marczak

The reinterpretation of forms related to naval architecture is observed on two levels. On a level using traits characteristic of ship hulls, i.e. bridge, helm, window, mast, the inspiration with ships emerges in architectural details. On the second level – that of the general form of a ship – the buildings take on a shape resembling a hull. However, the reinterpretation of the ship form seen in the above examples is visible in the semantic layer of the structure, remains respectful of their surroundings and stresses its links with the sea.

4. The overinterpretation of the ship form in architecture

The environment in which ships operate is reminiscent of freedom and countless adventures, but also of hard and interesting maritime life. The famous words of Pompeius: “*Navigare necesse est, vivere non est necesse*” (sailing is necessary, living is not necessary), which he pronounced on a stormy sea voyage, arouse curiosity and excitement, inviting one to test the truth of this saying personally. Staying in a hotel modelled on a ship may be an alternative to an actual voyage aboard a sea ship. Access to technology in our day and age gives designers and investors free rein to pursue creativity. The semantic layer of an idea is no longer so important. The form of a building is dominant, focused on its association with a passenger vessel whose furnishings and excellent service are known to everyone from the media. However, the imagination has already been stimulated, enticing the visitor in such a place to expect luxury comparable to that on a cruiser.

An example of this is the Sun Cruise Hotel in Korea (Figure 15). The investors envisaged a building resembling in its form a ship stranded on a high shore, which offers the users a substitute of the real experience of a luxurious pleasure cruise. The designers faithfully reproduced a specific ship, i.e. Royal Caribbean International Sovereign Class, complete with a cruise simulation supported by sound recordings of waves crashing on the shore played from loudspeakers planted in the rooms.

Exaggerated allusion to inspiration leaves no room for viewer interpretation. The form of a building which imitates a ship is perceived as improper as its knowledge-based mental image sees in it the attributes typical of sea-fearing vessels. The transmission of meaning embedded in the form is disturbed. We do not know if we are looking at a building or a ship which has run aground. This is also the case with Hotel Titanic in Turkey (Figure 16). References to naval architecture occur here both in the name of the hotel and form, although the latter is no longer so well-defined. The building has the form of a hull with a cruiser superstructure, transformed to resemble the typical two-piece form of a hotel establishment. On the other hand, it is the ship-like qualities of a hotel that are captured in photographs taken for advertising purposes. The form of a passenger ship is intended to attract tourists with a promise of luxury found on cruisers.



Figure 15. Sun Cruise Hotel, Jeongdongjin, Korea [7]



Figure 16. Titanic Hotel, Antalya, Turkey [8]

The above examples show that inspiration does not always drive creativity. This is connected with a lack of understanding for the phenomenon of inspiration which is short-lived. As a result, buildings come into being, whose form is the effect of a creative reworking of inspiration. These can be classified not only in terms of transcending the bounds of inspiration but also as an overinterpretation of the ship form.

5. Recycling the idea and the idea of recycling

In recent years there has appeared a new way of using the theme of the ship in space. For centuries, ship parts such as masts and anchors have been used to carry out creative intentions in space in the form of decorative elements and monuments or commemorate places associated with the sea. However, the shipwreck found in the sea was treated quite differently by designers from Shinslab Architecture, who were driven by the idea of promoting recycling and upcycling. The interpretation of a ship leaving service at sea as a spatial installation shows that the items that we "throw away" may still serve us in their unprocessed form when adapted to a new function.



Figure 17 (a) (b). Spatial installation in front of the Contemporary Art Museum, Seoul, Korea [9]

The Contemporary Art Museum in Seoul has given young designers a chance to present their creative and innovative work. In front of the Museum, there was a spatial installation made from parts of the ship extracted from the seabed. The inside of the freshly-welded, capsized, white-painted hull was hiding a small garden (Figure 17 a, b).



Figure 18. USS New York LPD-21 [10]

The concept of recycling has made it possible to use the remnants of the World Trade Centre towers that were destroyed in the terrorist attack of 2001. The steel from both buildings was melted down and reused in a surprising form. The steel was used to build a naval vessel. The symbolic strength of the ship was aimed to overcome the traumas associated with the assassination. In this case, the ship is not an inspiration for a land object, because the elements of the building were used to build the ship (Figure 18).

6. Conclusions

Nowadays, ships inspire architects and investors in two ways, depending on the degree of sensitivity to space and the degree of awareness of the impact (including aesthetic impact) of our actions in space on its improvement or degradation.

Architects, as people with greater sensitivity and awareness of the impact on the quality of space, approach inspiration in a creative manner. In designs, and later in their implementation, inspiration is understood as a concept, a principal idea that allows identifying an architectural object while simultaneously forcing the viewer to search for and interpret the idea proposed by the designer. Such an approach to design demonstrates respect for both the context and users of the object. Reinterpretation of the form or theme of the ship influences the quality of the building and also makes the building particularly important.

On the other hand, we usually meet investors who do not have the proper sensitivity to act in space and therefore do not pay attention to the context of the place, in which their structure is built, making decisions that result in the aesthetic degradation of space. In such cases, we can hardly speak of inspiration, but only of reproducing the form of a ship in a space that is unadjusted or improper. The over-interpretation of inspiration does not affect the quality of the building, but the subtle meaning loses its importance.

The projects shown in the article clearly indicate that the inspiration in architectural design can be consistent with the definition¹ - the architect draws inspiration, is creatively energized, the form of the ship has a major influence on the main design decisions.

Conversely, the reproductive approach to the use of the literal form of the ship is no longer an inspiration. There is a lack of creative factor that determines to classify the object as positively influencing the shape of space.

References

- [1] J. Krenz: Architecture of meanings (Architektura znaczeń), Gdansk 1997, p. 18
- [2] W. Rybczyński: How does architecture work? Humanist toolbox (Jak działa architektura? Przybornik humanisty), Cracow 2014
- [3] M. Giorew: Symbology of the main building of Gdansk University of Technology. Architectural

¹ Definition of inspiration: 1. "afflatus, creative enthusiasm" 2. "impact, suggestion" Dictionary of Polish Language PWN.

study. Graduation work, supervisor K. Szarejko (Symbolika gmachu głównego Politechniki Gdańskiej. Studium architektoniczne. Praca dyplomowa wykonana pod kierunkiem K. Szarejki), Gdansk 2004, p. 28

- [4] J. Krenz: Architecture of meanings (Architektura znaczeń), Gdansk 1997, p. 30
- [5] L. Nyka: Architecture and water - crossing borders (Architektura i woda - przekraczanie granic), Gdansk 2013
- [6] J. Szczepański: Architectural decoration - a sketch of its history and today (Dekoracja architektoniczna – szkic o jej historii i dniu dzisiejszym), Gdansk 2016
- [7] (<http://esuncruise.com>)
- [8] (<http://www.titanic.com.tr>)
- [9] (<http://english.yonhapnews.co.kr/>)
- [10] (<http://www.centrala.net.pl/our-work/transplant>)