Cultural Identity of the Industrial Heritage in Gdansk

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Abstract. Since its inception, urbanized area passes a number of changes, caused by demands of its inhabitants. Industrial heritage, including historic architecture at the brownfields, that's more and more present in the centres of our cities, is one of the most important components of the identity. The development of civilization causes the phenomenon of spatial and functional transformations. Revitalization of the areas recently occupied by the industry, provides a unique opportunity to rediscover their values. Increasingly, however, it uses the terms "wasteland" or "brownfields". Land use by industry is associated only with its "predatory" use, destruction, devastation. However, we can venture to say, that the existing industrial use of the land, "civilized" them. Current developments have restored a public access to the "new" urban space. At these areas preserved quite a lot valuable architectural objects. That can be seen, unfortunately, tend to forget the fact of complexity, multithreaded value areas and facilities. Analyzed causes of the risks, ways to prevent adverse transformations, methods of developing action plans to re-create the industrial architecture - are still discussed. Industrial heritage, particularly architecture, is one of the important components of the material culture that specify identity of the city of Gdansk. It provides with no doubt about its distinctiveness and originality in relation to other cities and regions. Revitalization projects are at the same time the most effective way to protect and preserve the cultural identity of the brownfield facilities. Examples of such transformations are most relevant to Gdansk and also beginning to be more and more visible. Areas of the main activities of revitalization in Gdansk, are the area of the former Imperial Shipyard and the Ołowianka Island are still and only the beginning of the necessary changes. Old industrial plants and technical facilities should be subject of the regeneration and be activating element at the scale of the whole districts and the city.

1. Introduction
The process of shaping the architecture of the industrial heritage of the Gdansk region was transformed by changes in ways of the production. Modern industry and architecture attributed to it, originated in the region of Gdansk in the 19th century. Until then, in its basic shape has been determined its location. Systematics of the industrial buildings can be carried out according to many criteria. The primary criterion of choice is the historic value of the facility. The following are: functional transformation of an industrial building and its technical condition. In my research I have attempted to answer the question of how the functional and the technical conditions of the industrial building affect one another.

2. Gdansk case studies
Based on collected data and analyzed data, I have found, that for the total number of examined objects, the function of the original function changed approx. 30%. In 58% of them the original industrial function was continued. About 10% there is no data. It turned out that the largest number of objects in
good and very good technical condition is associated with performing the original or other functional use. Among the objects that do not have utility function most are those that are in the middle and poor technical condition.

Industrial objects occur singly or forms specific assemblies. Buildings are connected functionally, technologically and spatially with an industrial plant. They are strictly dependent on the transformation that it is subject to. New objects are created, existing ones are expanded, adapted, dropped and sometimes demolished. Usage, degree of transformation and maintenance of industrial buildings are derived from the state of the plant. Without such reference, industrial buildings transformations cannot be considered. Studies have included such teams and their functional transformations have become the basis to define their types.

Every industrial building has its technical lifetime. The best one is always at the first phase of existence. Industrial buildings are subject of very rapid changes. We can distinguish several periods of operation. The first is the originally planned production function. Another one - transformation of this feature. The last one; total loss of the usability. The most interesting are the objects in which the function changes occurred. I have highlighted four essential subtypes, specifying the percentage of transformed objects against the background of the entire industrial plant.

The AI subtype identifies those industrial plants and establishments buildings, where degree of the changes in feature functions are quite small. Subsequent subtypes AII and AIII signal the transition through the plant transformation. For the type AII, that means upgrading the plant and involves converting or abandoning certain facilities. The subtype AIII is a turning point in the life of an industrial plant. It means that more than half of the buildings lost its original function. It leads to complete loss of production function. This is exactly the case in the AIV subtype, where an industrial plant changes or ceases operations. The other, new utility functions appear in industrial buildings. As a result of the research, it was found that the largest number of AI-type plants are found in the food, fuel and energy industries, transport, utilities and chemical industries. Type A IV objects are most common in food, transportation, municipal and chemical industries. On the basis of the systematic collection system, a proportion of establishments and teams was selected in proportion to the quantity of each type. The direct selection criteria were: historical value, representativeness of the type and activity of the region.

Two extremely different examples of evolutionary changes in the market economy are well illustrated by the issues and the complexity of the problem. They also set the direction of action and show what should be avoided so that as many objects of industrial heritage in Gdansk gain new functions.

3. Gdansk shipyard
The shipyard is located north of the Old Town. It is divided into three zones that coincide with the spatial and historical development of these areas. Historic buildings are built of brick or steel frame technology with brick filling. Shipyards, preserved to this day, were built from the mid-nineteenth century to the end of the twentieth century. Historical buildings have ornamental facades, with rich detail, friezes, cornices, arched door lintels.

The dynamic development of the shipbuilding industry in Gdansk was connected with the creation of a war-base by Prussia. In the mid-40s of the nineteenth century, the naval base was built. The first buildings and the dock were built. The war with Denmark accelerates the expansion of what initiates the work of the Royal Shipyard. In the mid-nineteenth century there were another expansion. Existing buildings were enlarged and new ones were built. In the 1860s, Prussia reclaimed Kiel and moved its naval base there. The Royal Shipyard was planned to be closed. In the 70s of the nineteenth century, these plans were abandoned. The shipyard was renamed into "Imperial". The next modernization and expansion was taking place at the turn of the 70s and 80s of the 19th century. This was done by adapting old and building new objects. The next stage of the transformation was in the second half of the nineteenth century, when the existing buildings were enlarged, the floors were added and adapted to new needs.
At the beginning of the 20th century, the shipyard undergoes further spatial and functional changes. As before, the existing facilities were upgraded and adapted. Significantly enlarged main production buildings. New production and warehouse facilities have been created. The end of World War I causes stagnation. The Shipyard of Gdansk is built from the Imperial Shipyard, then the British-French joint stock company. The beginning of the 30's is a drop in output triggered by the crisis. The shipyard was taken over by the Free City of Gdansk and then by the state. During the war, the plant was focused on military production.

The Schichau’s shipyard (contemporary part of the Gdansk Shipyard) comes from Elblag. Its presence in Gdansk dates back to the late eighties of the nineteenth century. In the early nineteenth century, it began to carry out naval orders. The following years bring the expansion and modernization. And the war causes a change in the profile of production. At the end of the twenties of the twentieth century, a change in technology led to the modernization of the plant. In the 1930s stagnation began. During the war, the shipyard works for the navy. In 1945 the shipyards were taken over by Poland.

After the Second World War shipyards were united and new company Gdansk Shipyard was established. In the 50s and 60s, thanks to orders from the USSR, the shipyard is developing very well, as evidenced by the number of launches. The economic crisis of the 70s and 80s of the 20th century at the socialist states bloc strongly touched the shipyard. In the workers' protests in the 1970s and 1980s, the shipyard played a key role. After the suppression of the Solidarity uprising, in December 1981 the Prime Minister's decision was tried to liquidate the shipyard. It was understood as the political revenge. The inaction of change through martial law, the stagnation, the deepening economic crisis, the inability to resolve the state's problems in the past, have resulted in the need to share the responsibility, influence zones and also business zones with the opposition of the government. Resulting in the Round Table and the June 1989 elections.

Market transformations have led to the need for far-reaching restructuring of many sectors of the economy. Among other sectors of the shipbuilding industry. The Gdansk Shipyard, that survived to these transformations, was unable to meet the market requirements and in 1997 finally bankruptcy of the plant became fact. In 1998, the company was bought by consortium of Gdynia Shipyard and Evip Progress. In 1999, as a result of the implementation of the restructuring plan, all production activities were transferred to Ostrów Island while the remaining areas were allocated to other purposes. Management of these sites and preparing them for sale was to be dealt with by a specially established company; Synergy 99. Still in the half of the 1990s the Study of the Development of the Northern Parts of the City of Gdansk was developed. It has become the starting material for further studies on the total land area of the shipyard.

International Large-Scale Urban Developments Conference, series of design contests, design seminars with international planners including Sasaki Associates (USA) and development workshops have allowed to define the spatial vision of these areas, that is also the initial proposal for a master plan. In 2000, the Gdańsk Development Office took over the works at the former shipyard areas. In 2002 starts the concept of development of the so-called " Young Town". It becomes the basis for the development of two plans: New Town - Solidarity Square and Nowe Miasto - North adopted by the Gdansk City Council in 2004.

73 ha of shipyards destined for revitalization brought to Synergy 99 a new Gdansk Shipyard Gdynia Shipyard Group, that purchased them from the bankruptcy trustee of the former Gdansk Shipyard. Subsequently, Synergia 99 repaired Gdansk Shipyard and soon the sole shareholder of Synergy 99 was Gdynia Shipyard. In 2000, the company acquired two international investment funds with a guarantee from the US government agency Overseas Private Investment Corporation. Others remain owned by Evip Progress. Synergia 99 was responsible for day-to-day administration of real estate and increasing the value of property held by the organization of the process of converting industrial land into land for city development. Midtown functions are provided for central plots, while industrial and service plots are in the north.

The next step is to sell these plots to developers and entrepreneurs. During the preparation of future investments in the post; the concept of the development plan of the shipyard, was prepared in 2000 by
the architectural-planning firm Sasaki Associates from Boston. As a result of the design workshop Vision Master Plan was created. Developed the concept of land development during the International Developing and Architectural Workshops (2001-02).

In mid-2005 the City of Gdańsk approved the geodetic division of the Young Town area, that opened up the possibility of selling dozens of plots of land on approximately 50 hectares of land, offering new functions: residential, public and commercial services, commercial, office, educational and industrial.

The concept of the Master Plan was the subject of a number of analyzes, of which a new program of shipbuilding areas was formed. The area has been divided into two main parts. The “A” Area is to become a new Gdansk business and commercial center, that corresponds to the master plan of the Gdansk Mlode Miasto (Young City), Shipyard, Solidarity Square. The “B” Area will be transformed into an Industrial Park, territorially corresponding to the North City Plan. The area of the shipyard was divided into public areas and plots of land, that will be the subject of commercial buildings. The most important public places include the Solidarity Square with the planned Solidarity Center and the commercial quarter, office-financial and institutional buildings, exhibition-trade, entertainment and tourist facilities.

The plan assumes the possibility of building a minimum of 1500 apartments for sale and rent. In the Industrial Park, the northern part of the shipyards, the production and services are planned for no-worries, environmental friendly activities. The plan defined the degree of protection of the most valuable historical buildings and emphasized the public and water nature of the area. As a result of the planning work, up to 30 independent commercial plots with a total area of about 50 ha have been allocated. The remainder of the land is reserved for infrastructure, including communication and other public spaces: squares, canals, green spaces and non-commercial monuments. Also in 2005 the Volume Urban Study for the Young City was developed.

Included in it problems were divided into three main groups:
- the baseline conditions for the urban planning concept were elaborated and was made detailed analysis of the district's conditions, including those from the Young City Master Plan - Solidarity Square and the New Town - North; the state of preservation and cultural value of existing buildings to determine the identity of the Young City.
- the balance of possible built-in areas within individual parcels has been established, specifying the area occupied by existing, preserved objects;
- the new structure of buildings was designed, as a result of analyzes and balance sheets, with the division of individual areas into development quarters.

The premise of the Young City Volume Urban Study was to be a design material of particular importance. It was intended to help the owner prepare further investment based on a specific vision, to be negotiated in investor interviews. And at the same time could be base for the coordination of activities. It served as a detailed description of Master Plan records for individual investors [1].

The beginning of the revitalization process of the post-shipyard areas will be development of the surroundings of Solidarity Square. Because of the exceptional historical and location conditioning, the following assumptions have been made: the identification and closure of the new Solidarity Square frontage, urban development, function, integrity with new urban fabric, integration of streets, squares and parks, connection to adjacent cultural, commercial and recreational activities. Among the planned facilities, the ECS European Solidarity Center has the paramount importance. The purpose of ECS is to commemorate, preserve and disseminate the heritage and message of Solidarity, to inspire new, inclusive, civic, community, self-government, national and European initiatives based on the its values. The Square of Solidarity will complete multifunctional commercial property. The multipurpose facility of the Shipyard Center will have an area of approximately 94 thousand square meters. There will be shopping, dining and entertainment facilities with a total area of approx. 61 square meters, office tower with an area of 11 thousand square meters. And two residential towers with a total area of 22 thousand square meters.
What will be the continuation of the project to build a new center of Gdansk, called Young City, time will show. The development of areas beyond the commercial function described above and real, practical, based on the economic account, the use of subscriptions in Master Plan by investors is of key importance. This process, which is likely to begin soon, will be a forecast for the entire area of the site. In relation to historic shipyards, that according to Master Plan records, are protected, the future will depend to a large extent on the functions they will perform. An open question remains its definition so that it does not contradict, on the one hand, the nature of the objects and investment intentions and the time perspective of investment implementation. The longer will be the search for investors in this worse condition will be the shipyard buildings. In addition, culturally valuable objects are treated by the overwhelming majority of investors as an obstacle to achieving their goals freely. It is possible to disappear from the port landscape many authentic architectural objects, instead of the sentimental mood will be sought by setting up at present commercial objects, port cranes. Such action does not give any information on the port's cultural heritage of a given area, creating only a somewhat closer, non-substantiated, landscape-based, non-substantiated evidence. The possibility of protecting shipyard buildings against disappearing from the cultural landscape of Gdansk is still open despite the approved Master Plan.

4. City Slaughterhouse
The former slaughterhouse complex is located in Gdansk in the Długie Ogrody district [2]. It was created in the end of the nineteenth century. Two spatial groups of buildings can be distinguished; the administrative and production buildings. The decorative and architectural qualities of the assumptions caused the entry in the register of monuments still in the 80s of the 20th century. This was a rarity at this time in Gdansk. The user was the Gdansk Meat Factory. The slaughterhouse was built as a large complex, divided into four functional groups. The first is the buying buildings. South of them disinfection buildings. From the west they adjoin the spacious courtyard. The lack of functionality had a terrible impact on the state of the plant buildings. Some of them have collapsed as a result of dismantling the cast iron columns supporting the ceilings. Many of them were set on fire and devastated. Currently buildings after the period of non-use were demolished. In the northern part of the area there was a separate sanitary slaughterhouse. It included meat inspection rooms, slaughterhouses and quarantines.

Some of the buildings were accidentally used – warehouses, car repair shop and technical fat factory. Group of buildings along Angielska Grobla Street contains administrative building, restaurant, stables with carriage house. These buildings were originally representative of character. Restaurant and administrative buildings were used as slaughterhouse offices. The old stables with the carriage were adapted for the workshop. An additional group of buildings was a team of grain stores from the mid-

They were mainly warehouses and workshops. The first non-accidental fire destroyed one of them just after bankruptcy in 1997, the rest of the buildings were devastated and burned several times. In the end of the 90s of the 20ts century, 5 ha of slaughter area was finally sold. Houses due to catastrophic technical condition were demolished and a procedure for the removal of monuments was initiated. So far, nothing has been created in the former slaughterhouse area. Attractive plot in downtown is a capital investment and only changes its owners.

The historic character of the buildings was an obstacle to the plans for the sale of the bankrupt company. The insolvency trustee did not hide in his press statements that "the burnt object reduces the cost of its demolition" [3]. Seriously interested in the former slaughterhouse was a German developer, who wanted to build a shopping and financial center at this area. However, the requirements imposed by the conservation services have effectively discouraged investors from buying and adapting historic buildings. In the end, old meat plant was bought by private investors. Due to the worsening condition of the buildings as a result of constantly progressing devastation and subsequent fires and accidents involving the arbitrary demolition of buildings, the procedure of deletion from the register of monuments is underway. The approved spatial development plan provides for various types of services and multi-level car parks in the former slaughterhouse.
5. Results and discussions
Since its inception, Gdansk’s industrial facilities have undergone a series of functional transformations. At present the process is still ongoing. In extreme cases, that has already occurred some of the valuable post industrial buildings were demolished. The preservation of the industrial architecture depends on its quality and usefulness. Studies show that this could be done only by upgrading or changing the industrial function [4].

The causes of failure despite many attempts to save the old industrial buildings in Gdansk are many and depends from many factors:

- lack of accurate, comprehensive definition and monitoring of the state of industrial architectural resources on a scale not only of the city but of the region,
- lack of identification, monitoring and countervailing of the causes of urban degradation,
- lack of existing or only initial stage of determination in the absence of funds for the implementation of programs aimed at valorisation and protection of industrial architecture,
- lack of elaborated legal and organizational rules and mechanisms for the implementation of procedures for the protection of valuable industrial objects,
- lack of accurate forecasts of economic trends and on the basis of which they define the role of industrial architecture in the market economy,
- lack of promotion of industrial architecture and finding buyers interested in realizing specific programs of its use,
- lack of specialized services that could such program, often based on a precise compromise, identify and then supervise,
- the lack of an organizational and financial system that could provide support and subsidies to support the implementation of programs,
- lack of mobilization of public opinion around the importance of the problem of the industrial heritage protection and implementation of the industrial architecture protection programs.
- The other factors I would mention are those, that occurring in specific feedback, instead of acting in favour of the object and the industrial area, turn itself against it:
- location and spatial conditions of the industrial facility,
- unregulated legal status,
- the degree of possible contamination of both: the plot area and the industrial building.

In this situation, the technical condition, structure and spatial characteristics and any architectural, historical and compositional values of the industrial facility remain secondary. In addition, as exemplified by the former slaughterhouse or some shipbuilding buildings, they are relatively easily devastated, demolished for other investment purposes [5].

The most important factor is unfortunately always the specific intention of the owner of the object and the land. Not always known and revealed. When it comes to indifference, administration, stigma, ignorance or just economic or political marketing of the decision makers, the effect can be only one. Devastation of facilities and lack of land use. Unfortunately, I expect that this process will involve many similar post-industrial buildings in Gdansk and in the region.

6. Conclusions
The state of recognition of the historic industrial architecture of Gdansk is insufficient and requires next researches. This is necessary because the investment pressure is constantly increasing. The starting point should be the determination of industrial architecture resources and full scientific documentation of the buildings and installations left in industrial abandoned areas.

The state of preservation of monuments of industrial architecture is unsatisfied and is constantly deteriorating. The cause of this was war damage, theft of equipment, misuse. Utilization and maintenance have enabled to endure to our times relatively many industrial buildings. Industrial plants get rid of unnecessary buildings that are then demolished or abandoned.
To prevent this, it is important to identify and implement programs for the valorisation, protection and use of industrial architecture. It is necessary to undertake didactic and scientific activities in the field of protection of industrial heritage architecture. Research centres must act as institutions promoting heritage conservation programs [6]. The basis for protection should be the organization of legal and organizational rules and mechanisms. Processes of splitting groups of industrial buildings to smaller groups for easier sale should be avoided. The sales and use procedures should be defined to prevent devastation and unfavourable transformations. The spatial complexity of an industrial complex is essential for its cultural transmission.

The way to survive industrial heritage architecture is to give them a contemporary function. Such procedure in the past was the cause of their survival to our times. Under market economy conditions it seems to be the only way to preserve [7]. The utility transformation of an industrial property does not necessarily mean a return to its former function. This is often not possible and a new feature must appear in the industrial facility. The preservation of the industrial buildings through the change of function brings many benefits. As illustrated by the examples cited, it is possible and expedient.

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