

## FACADES AND PROBLEMS IN CORRECT RECOGNITION OF THE FUNCTIONS THAT BUILDINGS PERFORM

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### Abstract

One of the roles of facades is the informative function. On the grounds of the external image the recipient should receive a legible message about the functions that the building performs. The scope of the paper is the presentation of the results of the survey run on a group of 50 students of the Faculty of Architecture, the purpose of which was to focus the attention on the difficulties in correct recognition of the function of the building based on the perception of its façade and a significant influence of subjective feelings of the respondents.

### Streszczenie

Jedną z funkcji elewacji jest funkcja informacyjna. Na podstawie wizerunku zewnętrznego odbiorca powinien otrzymać czytelny komunikat o funkcji zawartej wewnątrz budynku. Artykuł prezentuje wyniki badania ankietowego, przeprowadzonego na grupie 50 studentów Wydziału Architektury, którego celem było zwrócenie uwagi na trudności z prawidłowym rozpoznawaniem funkcji obiektu na podstawie jego elewacji oraz na duży wpływ subiektywnych odczuć respondentów.

Keywords: Facades; Informative function; Survey.

## 1. INTRODUCTION

From times immemorial facades were carriers of information, communicating something to the observers, or at least, supposed to communicate the message according to architects' intentions. According to Ch. Norberg-Schutz the first, complete system of architectural symbolism goes back to the ancient Egypt, where the forms used by architects were not only decorations but also a reflection of the order of the world and its constancy [9].

Information messages were deliberately coded by means of the form and details of facades. The field of knowledge that investigates cultural phenomena (including architecture), assuming that they create a system of signs, and hence, messages, is semiology [1]. The types of messages involving facades may be divided into two groups:

- Information denoting the functions of the building, communicating its usability,

- Symbolic information, connotations – the recipients' associations and their subjective reception of the building; concerning the deciphering of the contents that are not necessarily functional, but that represent, for example: philosophical ideas, political ideas, demonstration of the social status of its users or owners, sense of affiliation of people to place, etc.[8].
- Connotations – a subtle game, based on feelings, meanings, symbolic, metaphors, directed to discerning recipients. In the history of architecture there were connotation dictionaries that helped to comprehend such messages based on cultural codes and knowledge possessed by a given group or epoch [1].
- Denotations are more comprehensive associations that use a certain code typical for a specific style and assumption legible for users. Some types of buildings have been so much rooted in our consciousness that even those who do not know much about architecture

can easily recognize them. Some of the examples are churches of historical importance – their scale, body, towers, articulation of external walls – rendering information about their function. In modern architecture, which is characterized by abandoning the notion of style, the coexistence of many trends representing different approaches to shaping the informative function of facades, the deciphering of coded meanings seems very difficult. The form of “glazed rectangular prism” popular since Modernism is so ambiguous and flexible in its nature that it may denote any function, even a sacral one.

As far as the denotation function of facades is concerned, it should be pointed out that an important, or even key factor is the subjectivity of perception. While describing a given building one may say that it brings about associations with a certain and other function, but it will still remain a subjective point of view. To demonstrate divergent and various associations evoked by the external image of the building a control survey was carried out by the author of this paper, administered to 3<sup>rd</sup> year students of architecture, participants of faculty class: “Facades design”. The tested students were shown six pictures of buildings (without any descriptions) just showing their external shape and facades. The buildings shown on the screen were:

- Office building – John Deere World Headquarter in Moline (designed by Eero Saarinen),
- Office building – The Longaberger Basket Company, Newark, Ohio (designed by The Longaberger Company),
- Kindergarten in Frankfurt (designed by F. Hundertwasser),
- Church of the Sacred Heart in Munich (designed by M. Allmann, A. Sattler, L. Wappner),
- The Louis Nucéra Library in Nice (designed by Y. Bayard, F. Chapus and sculptor S. Sosno),
- Art Museum in Stuttgart (designed by Hascher and Jehle).

Each of the above mentioned architectural objects was shown in one photograph. The tested students were supposed to answer the following questions:

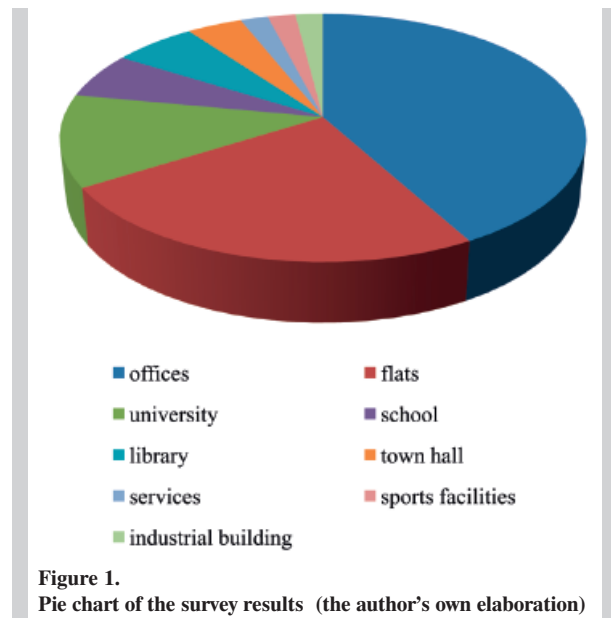
- Is this structure familiar to you? Yes/No
- If, YES, describe its function
- If, NO, what do you think its function is

The results of the survey are discussed below:

## 2. OFFICE BUILDING – JOHN DEERE WORLD HEADQUARTER, MOLINE, ILLINOIS

It was erected in the 1960s as new headquarters of a manufacturer of farming machines, designed by Eero Saarinen, and supposed to symbolize the Company's position on the market as well as to render (by its external outlook) the character of the manufactured products – their modernity, quality and reliability [3] (you can see the photograph of this building on the website: [www.minnpost.com/lindamack/](http://www.minnpost.com/lindamack/)). The surveyed student proposed nine different functions for this building.

The most common replies were: offices (21 students – 42%), flats (12 students – 24%), university (6 students – 12%). Other replies were: school (3 students – 6%), library (3 students – 6%), town hall (2 student – 4%), services (1 student – 2%), sports facilities (1 student – 2%), industrial building (1 student – 2%) (Fig. 1). The percentage value was assessed for the group of 50 persons which equals 100%.

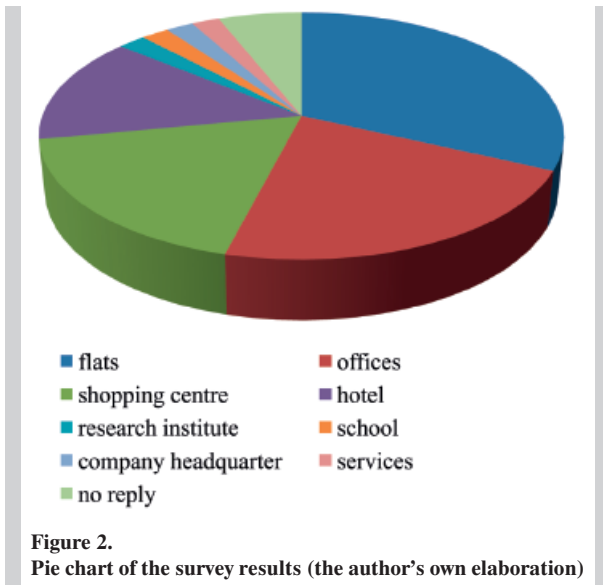


Remarks: Only 3 students claimed that they recognized the building, out of which only 1 stated that it was an office building and 2 that it was a housing building. The fact that almost 50% of the respondents guessed the office function of the building created by Eero Saarinen as a “work machine” certifies the success and agelessness of the architectural code used by the design architect.

### 3. OFFICE BUILDING – THE LONGABERGER BASKET COMPANY, NEWARK, OHIO

The office building of Longaberger in Newark is an object in the shape enlarged to usability, brand – marking product – a shopping basket (you can see the photograph of this building on the website: [www.flickr.com/photos/hb2/515608732/sizes/l/](http://www.flickr.com/photos/hb2/515608732/sizes/l/)). It was implemented thanks to Dave Longaberger’s stubbornness and determination who wanted to have such an image of the headquarters of his company. It was certainly supposed to be a form of advertising the company that would be explicitly associated with its products. The surveyed students proposed 8 functions for this building.

The most common replies were: flats (16 students – 32%), office building (11 students – 22%, including one person who stated that it was the head office of a food company), shopping center (9 students – 18%), hotel (7 students – 14%). Other replies included: research institute (1 student – 2%), school (1 student – 2%), company headquarter (1 student – 2%), services (1 student – 2%), no reply (3 students – 6%) (Fig. 2).



Remarks: 14 respondents declared that they knew the building, but opinions were divided as far as its function was concerned: 5 – stated that it was an office building, 3 – hotel, 2 – flats, 2 – could not specify the function, 1 – research institute. Only one respondent rendered the reply that was closest to the correct one: “Headquarter of basket shopping producers, shop”.

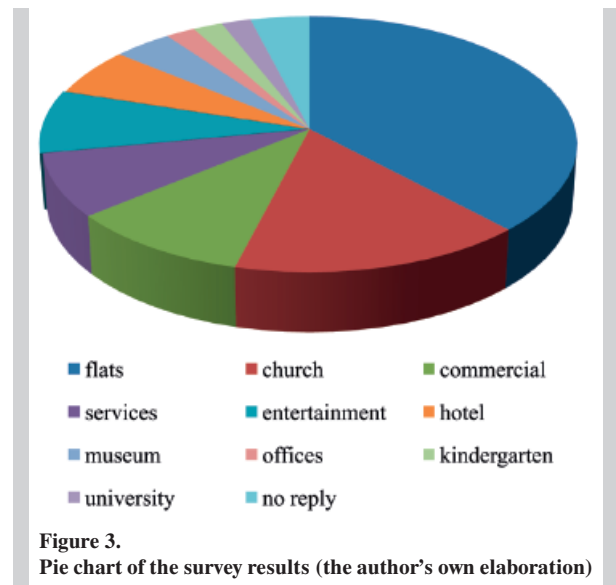
Accordingly, it turned out that a certain message transmitted by the façade may be legible in a specific country, yet, it has no universal character. Beside direct associations that did not require from the recipients any intellectual effort, students had problems in correct recognition of the function of the building. Although some of the respondents generally pointed out to the office function, as many as 1/3 suspected housing function.

### 4. KINDERGARTEN IN FRANKFURT

The building designed by a self-taught artist Friedensreich Hundertwasser – turned out to be very difficult to interpret (you can see the photograph of this building on the website:

[en.wikipedia.org/wiki/File:Hundertwasser-Kindergarten\\_from\\_Southwest.JPG](http://en.wikipedia.org/wiki/File:Hundertwasser-Kindergarten_from_Southwest.JPG)). As many as 10 different functions were suggested.

The most common replies were: flats (19 students – 38%, out of which 5 indicated that it could be a detached family house, and 1 student stated that it could be “a Roma family house”), church (8 students – 16%), commercial function (5 students – 10%). Other replies included: services (4 students – 8%), entertainment (4 students – 8% – like the zoo, fun park, entrance to the fun park, fun fair: “something for children and the youth”), hotel (3 students – 6%), museum (2 students – 4%), office building (1 student – 2%), kindergarten (1 student – 2%), university (1 student – 2%), no reply (2 students – 4%) (Fig. 3).



Remarks: 1 student declared knowing the building but associated it with the commercial function, yet, correctly gave the name of the design architect. Only one student said it was a kindergarten. It is the author's opinion that the "imposing" onion-like cupolas might have suggested the sacral function, yet, in the replies it was not the first. This, again, proves the subjective nature of human perception. Recurrent replies indicating the housing function were probably associated with Hundertwasser's housing designs which, similar to the kindergarten in Frankfurt, expose the features typical of his artistic output.

## 5. CHURCH OF THE SACRED HEART – MUNICH

In this Church "the timeless message is that the church is shelter" was communicated by modern architectural language [7]. The main role in the design was light, always present and essential in the space of Catholic Churches, and hydraulically-opened glass walls (the wings of the main portal) are supposed to get down to associations with caring open arms [5], [10], [14] (you can see the photograph of this building on the website:

[www.archicentral.com/herz-jesu-kirche-munich-germany-allmann-sattler-and-wappner-2927/a\\_1/](http://www.archicentral.com/herz-jesu-kirche-munich-germany-allmann-sattler-and-wappner-2927/a_1/)).

Probably, due to the fact that the building is well known (mainly because of its energy-efficiency) and has often been presented in professional publications, as many as 17 (34%) of the respondents admitted that they knew it and indicated its function correctly. One student, despite such declaration did not guess the real function of this building. In general – 10 different functions were proposed, but over a half of the respondents still stated correctly that the function was sacral.

The most common replies were: church (29 students – 58%), office building (9 students – 18%). Other suggestions: gallery (2 students – 4%), museum (2 students – 4%), services (2 students – 4%), flats (1 student – 2%), company headquarter (1 student – 2%), administration (1 student – 2%), sports facilities (1 student – 2%), no suggestion (2 students – 4%) (Fig. 4).

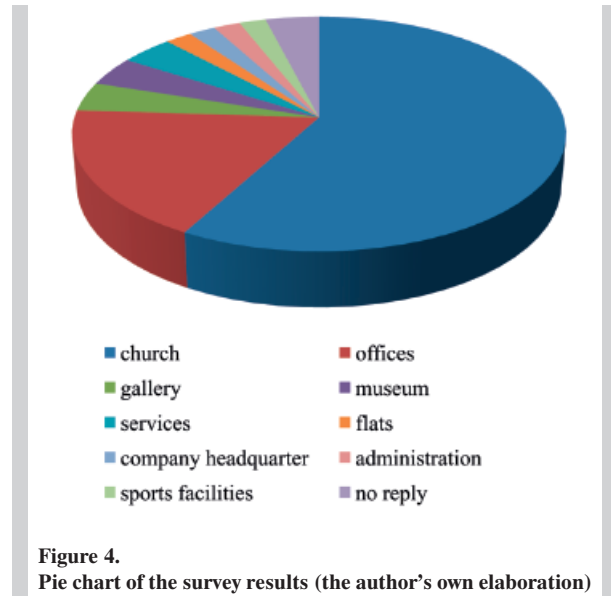
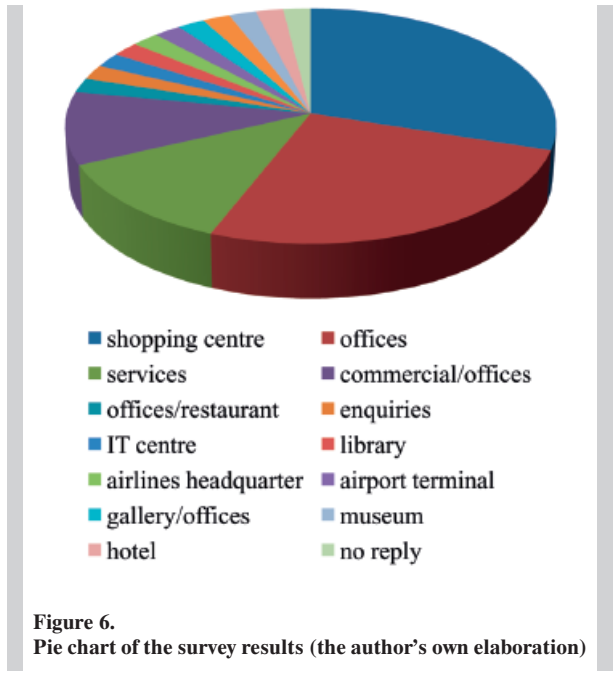
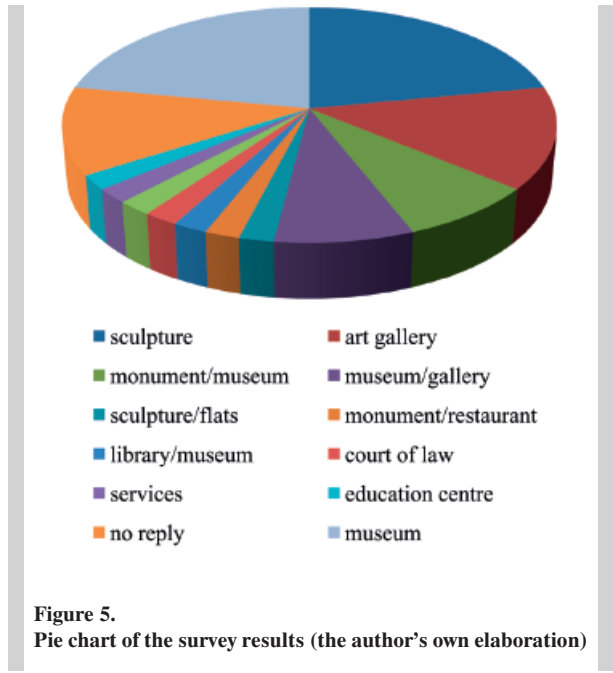


Figure 4. Pie chart of the survey results (the author's own elaboration)

## 6. LIBRARY BUILDING IN NICE

An example that, apart from certain explicitness, induces the recipients to reflection and asking the question: "What did the author want to convey" is the modern "sculpture like building" situated next to the art museum in Nice and housing the library. It has the form that carries a lot of meaning. At the design stage it evoked a lot of uncertainty but now is a big tourist attraction, appreciated mainly for blending its function with its form, which depicts the head (3 floors of the neck and 4 of the head itself) (you can see the photograph of this building on the website: [www.panoramio.com/photo/47030896](http://www.panoramio.com/photo/47030896)). Unlike the previously discussed Church in Munich – none of the respondents knew this structure.

The most common replies were: museum (11 students – 22%), monument or art gallery (7 students – 14%), sculpture (11 students – 22%). Other replies: monument/museum (4 students – 8%), museum/gallery (4 students – 8%), sculpture/flats (1 student – 2%), monument/restaurant (1 student – 2%), library/museum (1 student – 2%), court of law (1 student – 2%), library (1 student – 2%), services (1 student – 2%), education centre (1 student – 2%), no reply (6 students – 12%) (Fig. 5).



The form of the building turned out to be so difficult to interpret that 6 respondents did not give any reply. There were also doubts as to the scale and the fact if this was really a building and not a sculpture, monument or element of “small architecture”. Those of the respondents who decided that this was an architectural structure associated its function mainly with art. Among 12 proposals of the types of functions there was only one that correctly indicated a library. Also, a certain degree of indecisiveness emerged – 11 respondents indicated not only one but two functions.

### 7. ART MUSEUM IN STUTTGART

The last of the tested structures is a form popular since Modernism- glazed rectangular prism (you can see the photograph of this building on the website: [www.mimoa.eu/images/242\\_1.jpg](http://www.mimoa.eu/images/242_1.jpg)). In the eyes of the respondents it was really equivocal.

The most common replies were: shopping centre (15 students – 30%), office building (13 students – 26%), services (6 students – 12%), commercial/office function (5 students – 10%). Other replies: offices/restaurant (1 student – 2%), enquiries (1 student – 2%), IT centre (1 student – 2%), library (1 student – 2%), airlines headquarter (1 student – 2%), airport terminal (1 student – 2%), gallery/office building (1 student – 2%), gallery (1 student – 2%), museum (1 student – 2%), hotel (1 student – 2%), no reply (1 student – 2%) (Fig. 6).

Remarks: Two students declared that they knew the building but could not state its correct function, indicating commercial activity.

The building was mostly associated with the commercial and office function, 5 students could not decide and stated both commercial and office function. In case of this particular building an important and misleading clue was the graphic information placed on the facade windows, probably leading students to associate it with airlines and airport terminal.

### 8. CONCLUSIONS

Visual research with the use of drawings or photographs are not very popular in architecture. Some attempts were made by M. Krampen, who stated that too much simplicity, formal poverty, resignation from details and excessive uniformity of facades make architectural objects ambiguous and difficult to decipher their true function [6]. The studies based on the use of photographs were also conducted by Ch. Jenks. For example, he carried out a metaphorical analysis of a fragment of the facade of Olivetti Training Centre in Haslemere (designed by J. Stirling, 1969-72) on the grounds of studies focused on students from different countries (Norway, California, Great Britain). The tested students were shown framed pictures of the wings of a certain building and asked the question: “What does

it remind you of". According to Ch. Jenks, rounded curves and smooth surfaces evoke the image of Olivetti calculator. However, the analyses rendered different results. The wings of the building, the roof and walls which are covered with uniform plastic surface, evoked in the respondents the images of railway cars, busses, caravans, waste containers. So, likewise in the studies conducted by the author of this paper the associations evoked by the external image of the building as shown in the photographs are various and equivocal [4].

Currently visual studies dominate advertising activities. Tests are run on people's reaction to a given image with the use of various equipment [2], and the results are reflected in the profits derived from successful sale of a certain, well advertised product.

The conducted research focused on turning the attention to the problem of subjective assessment of the denotative function of facades does not provide in-depth knowledge. The consideration of the field of architecture in such approach may encounter many difficulties. Even the manner of the research has an orientation character only, as it does not take into account the following problems:

- Unsettled distance of graphic legibility, i.e. the distance from which particular details may be detected and understood (the tested students sat at various places of the lecture room),
- Plain presentation of the body of a certain building, from one side only, without real context,
- Presenting the discussed structure only at daylight which is essential in case of The Louis Nucéra Library in Nice which at daytime looks like a sculpture; but, at nighttime, lightened from the interiors reflects the internal divisions into floors (Photograph 9 presenting the building at nighttime was not shown),
- Uncontrolled rigorously time available for watching a given photograph, which, among other factors, translates into the amount of detected details.

Apart from the above mentioned problems, the argument in favour of the use of photography is the fact that architects are used to operate with the graphic imaging of architecture in terms of existing buildings or visualizations of those that are in the process of design. The use of photography was very interesting for the respondents and enjoyed a lot of acceptance.

The survey results indicated that in the description of the semantic sphere of an architectural object it is impossible to arbitrarily and explicitly declare associations that people make. The architect or critic may

assume some kind of assessment, but individual recipients slip out. This especially concerns modern architecture that breaches the binding conventions. In these days there are many structures that emerge and their external image is ambiguous or misleading to recipients, which was proved by the survey discussed in this paper. Apart from the well known and widely published case study of the Church in Munich, the function of which was recognized by the majority of the respondents, less popular structures were associated with various functions. What is more, it was impossible to state any kind of regularity in the studies and observations. The tested group of the respondents indicated, each time, 8-13 different functions: the lowest score for The Longaberger Basket Company, and the highest one for the Art Museum in Stuttgart. The conclusion is that even among professionals, young people who study architecture, the replies may be really different. At the same time, it should be emphasized that in accordance with the results of other research conducted by the author of this paper, respondents who were not all involved in architecture had problem in answering the question about the meaning aspects of building facades [11], [12], [13].

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