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Compositional and spatial structure of the entrance groups of the public service establisments built-in into the apartment houses

Abstract
Various factors and conditions that affect the organisation of architectural environment of entrance groups of public service establishments located on the ground floors of residential buildings are comprehensively reviewed in the article. Available design features and compositional and spatial solutions of various built-in public service establishments that contribute to the solution of problems of aesthetic expression of residential development.

Keywords: entrance groups; built-in public service establishments; compositional and spatial structure.

Introduction
Built-in into the ground floors of apartment houses public facilities belong to traditional cultural and welfare facilities, construction of which saves urban areas, approaching the maximum service to the public enterprises, increasing density and architectural expressiveness building. Their use contributes to the full in functional and aesthetic respects residential structures, roads, shopping and pedestrian streets and service complexes [1, 2].
The topicality of the ground floors of apartment houses usage as built-in public service establishments constantly grows. But there is a problem that combines not only the public service establishments that occupy space in residential buildings that were designed from the outset with built-in objects, but also those that have been converted from ground floor apartments; the installation of entrance groups of public service establishments in respect to the exterior of the building and the environment in general.
Entrance group is an integral part of any building, whether an office, a business centre, industrial complex, shop or an apartment building. The term "entrance group" combines all architectural, decorative and building elements that are directly or indirectly related to the entrance of the building. At the same time, the entrance group – not just the design of the main entrance. Almost every built-in public service establishment demand appropriate architectural organisation of entrance group, that definitely affects not only the general appearance of the building, but the environment as figurative and functional transition from the street to the premises. This issue is particularly relevant to a various series of typical residential buildings of 1960–80's, their facades do not have specially aesthetic appeal.
Entrance groups become an obligatory part of modern buildings of shops, business centers, bars, cafes and restaurants. The stylish design of the entrance group attracts visitors, and therefore potential customers. They are the face of the company and should correspond to the high image and status of the company. Aesthetically, entrance is the hallmark of the object as its design forms the visitors' idea about the range of products and quality of services provided by the company. Along with aesthetic and image function, entrance group has a practical purpose and should provide free and convenient entrance and exit of visitors in normal and emergency modes. In addition, it serves to protect the indoor climate of the external weather conditions, extreme temperatures and humidity. Naturally, functions of the entrance groups of enterprises and companies of various profiles will be different from each other, as well as their architecture and composite solutions, respectively [3].
The purpose of this article is a comprehensive review of design features and compositional and spatial solutions for various built-in businesses and service establishments that are located on the ground floors of residential buildings.

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The main part

Specificity of placement and compositional structure of built-in objects depends on many factors and conditions, foremost of which is enterprise service typology, design-planning structure of residential buildings and urban conditions of their location. Type of establishment, its layout, and operating conditions affect on the premises, which it has to hold, and the location of the premises.

Intensive development of the central squares and main highways and streets with apartment buildings with built-in public service establishments led to the original built-in centres and complexes of city, district and local levels in almost all the cities. The main advantage of such complexes as well as individual establishments is the occupation of inconvenient for living ground floors of residential buildings on the perimeter of streets and squares enrich and make more diverse their development without requiring separate sites for its location. Their distinct advantage is in efficiency of expensive urban area usage. However, it is important to consider the difficulties of their complete isolation from the apartments, that in particular tend for the catering production areas which should be placed outside the dimensions of residential buildings in the attached volume [2, 4].

Distribution of different schemes of built-in/adjacent enterprises and institutions is becoming increasingly important (il. 1). The new development is usually built already with built-in establishments. Construction of residential building is not enough at present time. It is necessary to provide residents with everything they need, to create the administrative part of the building, shops, security, parking, and recreation area. It is not only to bring desirable closer to people, but also to minimise expenses of construction companies providing people with necessary services. The embedding of such establishment into the building solves many questions and is quite convenient for people. Many districts, especially close to the city centre, have almost no shops, and the new territories developing in the outskirts of the city do not have the service infrastructure at all. Therefore, designing a building or complex of buildings it is worth to take care about the convenience of residents. The lack and high cost of lots create the need for built-in and built-in/adjacent establishments. Trend of refurbishment of the ground floor residential apartments for the needs of different businesses provides new prospects for the development of the existing urban environment. Many people, who own apartments on the ground floor and not satisfied with that, accommodate their private business in this dwelling space or sell the apartment under commercial purposes. This phenomenon is quite widespread today.

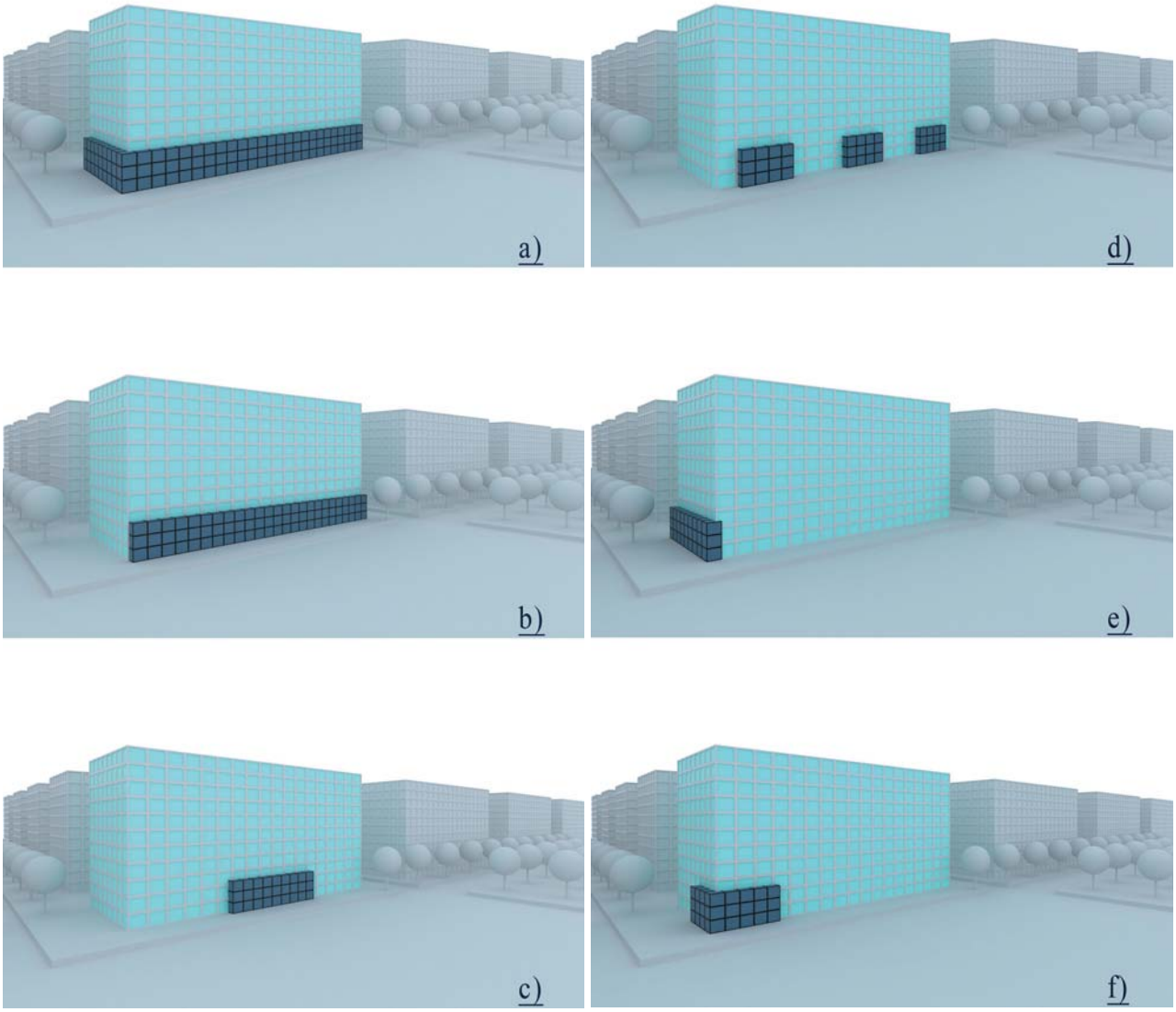
In case of design of residential buildings already with built-in establishments, compositional and spatial organisation of entrance groups is determined by a common design decision in accordance with the existing town planning conditions (il. 2). These days, many construction companies plan accommodation of public service establishments in their buildings at the stage of construction, and some of them even create offices in attached areas. This not only promotes greater economic efficiency of construction, but also allows residents to conduct their professional activities in the immediate vicinity of the residence, and other residents respectively, have useful service establishments next door that makes their living more comfortable. We have to mark that in the days of Socialism standard series residential buildings designed with typical built-in establishments. Il. 3 shows typical built-in/adjacent public service establishments (author the architect Vadym Abyzov) for a series of typical Soviet apartment buildings for the city of Baku developed in Ukraine under the leadership of prof. Dmytro Yablonsky.

However in terms of reconstruction – refurbishment of the ground floors of apartment buildings for public use or change profile of built-in establishment or its extension or so, the creation of the composition of entrance groups becomes important according to the specific characteristics of architectural environment and the type of service establishment. The specific placement of built-in establishments and the character of the surrounding area and the architectural environment in general should be considered while planning.

Service establishments may be located along the facade of the entire building or by individual units, including the ends of the building. In cases where built-in establishments are built in converted apartments, they can have isolated placement on the front with separate entrance groups. They should not be placed randomly, but with certain rhythm along the facade. It is important to design entrance groups such as an integrated composition of stylistic unity and considering their location not only in respect of an apartment building, but also of the entire street and surrounding area (il. 1).

Service establishments and complexes, depending on the proportion of space they occupy on the lower floors of apartment buildings can be fully built-in, built-in/adjacent or adjacent. There are various combinations and their various joining available.

Built-in service establishments – all the premises are situated within residential house dimensions with ledges not more than 1.5 meters along the facade. Built-in/adjacent service establishments – the premises are located within building dimensions and in volumes that protrude beyond the building edges more than 1.5 meters. Adjacent service establishments – boundary walls are common or adjacent to residential building walls [5].



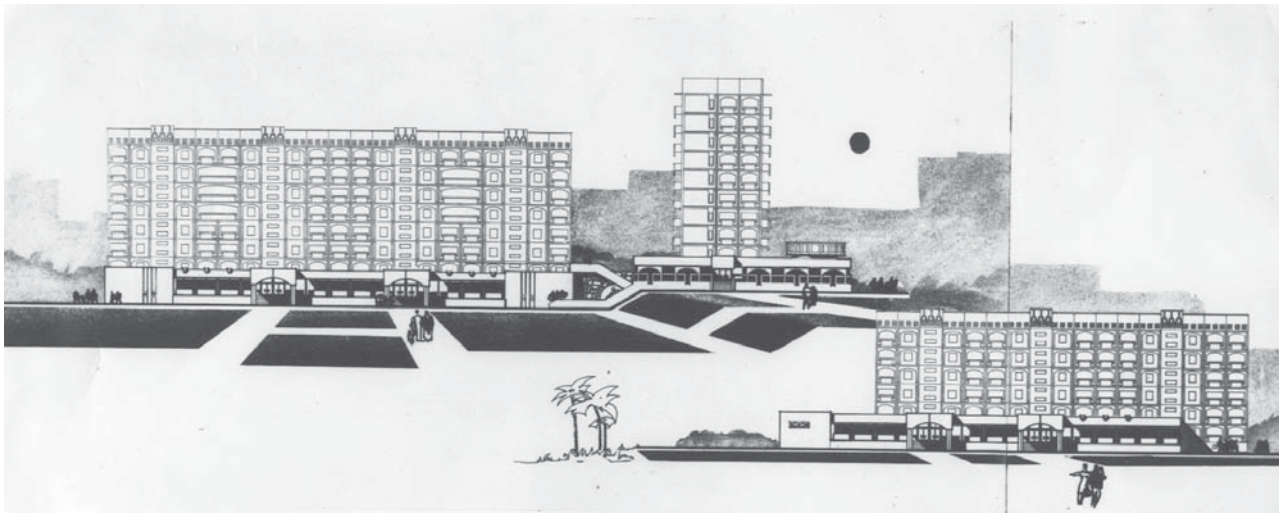
il. 1. The basic layout of built-in public service establishment: a) continuous; b) continuous frontal; c) frontal fragmentary, axial; d) frontal fragmentary, metric (rhythmic); e) angular; f) at the end.

They can occupy one floor of a residential building as well as can be designed on two or more floors. In such cases, it is often appropriate to place storage and utility rooms in the basement and basement floor of buildings.

After analysing the possible placement in urban space and volume of built-in service establishment, it can be stated that it affects the compositional-spatial solutions of entrance group. Design of entrance group considering the peculiarities of surrounding urban space provides opportunities to create a coherent and interesting composite solutions and on the other side demands certain requirements to the size of items and equipment, according to the design of entrance groups of built-in establishments with arrangement of surrounding area. If there is free space and a green belt in front of the entrance, they should be included in the overall composition of the entrance group. Thus, landscaping design of the entrance area with green areas, flowerbeds and herbal compositions is, according to the urban setting, the part of the overall project plan with its artistic and imaginative solutions. Meanwhile, this entrance node may be the main axis of the landscape composition (il. 4).

Adjacent to the entrance group urban space contains substantive content that specifies the functionality of its zones, which presented by objectively and visually diverse small architectural forms. These are objects that capture traffic units, lighting, domestic services (benches, litterbins, and drinking fountains), and information installations (advertising, clocks and other indicators). All of this have to be considered in the complex ar-

il. 2. Built-in establishments, designed in accordance with the general design solution of building (Irpin, Kyiv region).



il. 3. Typical design of the Soviet era built-in public service establishments for "Mobi" series buildings (architect V. Abyzov).

il. 4. Entrance groups of built-in establishments with landscape compositions (Kyiv).

rangement of exterior and composition of entrance groups. Some built-in service establishments during certain period of the year may have different rigs trays, tables, chairs, etc., and can have permanent functional-oriented small architectural forms, promoting the development of establishment and create suitable conditions for residents and pedestrians. Yes, sometimes it is necessary to place sculptures, fountain, park benches, and trashcans near the entrance in the street, which will create a recreational area and attract visitors. Small architectural forms as gazebos, long canopies or separate sunshades, bridges, viewing platforms, fences, decorative walls and others also may be used.

Besides the arrangement of the entrance itself, you must take care of arranging the attached territory. Do not forget about the arrangement of parking lot, because many of visitors have their own transport. This is especially true for public catering and retail trade.

Based on the practice of design, construction and operation of entrance groups, their composite structure can be divided into those that are built on the contrast or nuance with regard to the facade of a building.

Those built on the nuances in its architecture and stylistic solution generally subject to the facade. Elements of such entrance group are in equilibrium and correspond in form, scale, proportions, colour, style and facing to the whole architecture of the building. Although modern building materials and hardware are very different from those in the past, they now offer sufficient possibilities for architectural styling and relevant aesthetic organisations of entrance groups. This approach is particularly important in terms of historic buildings (il. 5). The complete pastiche of entrance group is possible as well as interesting modern solution, which, at the same time has to be stylistically consistent with the existing building and the environment (il. 6).

Entrance groups built on the contrast and in some way opposed to the basic structure of the facade can help diversify the appearance of many buildings typical for the second half of the twentieth century and create a sense of uniqueness and attractiveness for uniform development (il. 7). Successful contrast opposing of the colour, shape dimensions of the entrance group to the facade can make a "grey" and inartificial typical building more attractive and street environment interesting and filled with art (il. 8).

Entrance groups of built-in establishments differ from each other in their arrangement of elements set. Depending on the location and type of service establishment and the overall intent of the designer entrance group may be limited to a minimum or expanded to large set of design elements. For example, a minimum set of such elements include stairs with railings, canopy over them, various ramps for people with disabilities and wheelchairs, advertising signs or other information elements and so on. For built-in shops, cafes, restaurants, banks would be appropriate to include in the diverse composition not only functional but also decorative items (sculptures, decorations, etc.) that contribute to the creation of a certain attractiveness and appeal of entrance groups according to its purpose. Expansion of set of arrangement elements of entrance group can happen as described above, and due to the attached landscape composition. In addition to these regular arrangement elements may be added temporary decorative

il. 5. Entrance groups of nuance (slave) composition relative to residential buildings in the historic development (Kyiv).

il. 6. Entrance groups with contrasting composition relative to residential buildings in the historic development (Kyiv).

il. 7. Entrance group with contrasting composition relative to typical building of 1970's (Kyiv, architect. V. Abyzov).

elements (e.g. inflatable objects, light, etc.) associated with festive events and advertising companies.

Of course, a key element of the entrance groups are doors, which in recent years have become the basis for creating the so-called "transparent" entrance groups.

The main advantage of the all-glass entrances is their full transparency. It minimizes the psychological barrier that visitor has to overcome to open the door and enter the room. Glass panels with barely visible steel fittings are seemingly almost weightless; has high strength properties, it is, nevertheless, does not create a feeling of heaviness and closing. Glass door – a door that does not exist (visually), that is why it is ideal for trade, catering and entertainment establishments. This feature makes all-glass entrance group ideal for decoration or used for promotional purposes. A wide range of accessories allows you to give it the necessary emphasis – from charming retro to laconic hi-tech. Modern technologies of glass decoration – selective matting, printing on glass, bulk application – allow you to turn the usual entrance group into a unique work of art, creating a picturesque mural. In addition, different advertising elements can be placed directly on the glass – from the stationary light signs to frequently changing images on the adhesive base [3].

At the same time, it is worth to pay attention to such an important factor in the composition of entrance groups as lighting. It does not only utilitarian tasks of continuation of the city functioning and its services in the evening and night, but also plays an important role both in advertising and in the decorative and artistic value.

Conclusions

Thus a complex and multifactor approach to architectural environment of entrance groups of service establishments will help to solve the problem of aesthetic appeal and compositional expressiveness of urban residential area.

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il. 8. Entrance group with contrasting composition relative to typical buildings of 1970's (Kyiv).

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