SPATIAL-FUNCTIONAL APPROACHES TO CURRENT TRANSFORMATION OF BOARDING SCHOOLS AT THE AGE OF MODERNISM

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Abstract. The article presents a number of possible approaches for the spatial and functional transformation of boarding facilities built in the era of modernism within the framework of Soviet standard construction. The main goal of this work was to create a theoretical basis for the gradual process of transformation of the existing material base of care for children deprived of parental care within the framework of the "de-institutionalization" strategy, which, in turn, is based on the privileging of family-type collectives.

In the sense of the architectural strategy, the process of transformation of "institutionalized" institutions of the traditional planning and spatial structure based on the functionalist-rationalist method of design into "deinstitutionalized" institutions with the allocation of several zones for the family-type team is considered. It is assumed, that this method of achieving the goals of deinstitutionalization is only one of the possible ways related to the situation when the old premises of social care will cease to perform their functions in the traditional mode and the question of their new further use will arise. In addition, it was suggested that due to the presence of a certain number of residential facilities built on the basis of so-called standard projects, it may be possible to talk about the creation of "standard" recommendations based on them, which, to a certain extent, will simplify and reduce the cost of the process of reorientation of social care institutions about children deprived of parental care in the format of a family group.

Four transformative principles have been outlined that will allow the process of refurbishing old modernist facilities, mostly built during the Soviet period, in accordance with the principles of the deinstitutionalization strategy adopted in Ukraine as the basis of the state treatment program for children in need of social care. They cover a complex of spheres, in particular, such as the positive constitution of the child's personality, his effective socialization, constant energy efficiency, etc.

Keywords: deinstitutionalization, conversion, typical design, modernist objects, family-type institutions.

Introduction. Modern advances in the study of the psychology of orphans' growth have provided convincing information about the ineffectiveness of traditional boarding schools and the methods of education on which they were based [1]. The main reasons here are the lack of long-term personalized contact and emotional connection, which are characteristic of a family team. In this regard, in 2017, Ukraine adopted the National Strategy for Reforming the Sphere of Child Care. Who are deprived of parental care [2]. In particular, it provides for the gradual elimination of traditional boarding schools and a shift in attention towards adoption, or education in small "family-type" groups, in which the negative features of the "institutionalized" institution will be minimized.

In the latter case, the question arises of the need to develop a new type of space, the structure of which reflects fundamentally new educational methods and ways of interaction between the guardian and children. In this context, old residential institutions are losing their functional necessity, and their further use requires significant rethinking. Despite this, many of the qualities of such facilities may remain relevant and important for the field of alternative care, such as sports infrastructure, food and leisure areas. The supposed decrease in the number of children does not mean that objects of the "institutionalized" type cannot be used for their original purpose. A

possible way of their further existence is a planning and spatial transformation for the needs of several groups of the "family" type, which, on the one hand, living in a relatively isolated environment, could provide a sufficient level of personalized attention to each child, and on the other hand, use the existing infrastructure, within the framework of joint activities with representatives of other "family" groups-neighbors.

Under these circumstances, there is also a potential opportunity to develop and implement methods of positive socialization in broader communication contexts, as well as within different age groups, which, if an effective methodology is used, will solve one of the main problems of interpreting children deprived of parental care – the feeling of increased danger from the environment and social contacts.

Analysis of the main sources and publications. Given this topic's novelty, the study's source base is relatively insignificant. At the same time, it is worth noting the growing interest in the processes of deinstitutionalization and its comparison with other countries. An example is B. Lof's article "The Rise and Fall of Orphanages in Ukraine", where the author compares the process of disappearance of traditional institutions for children deprived of parental care in Ukraine and the United States [3]. This topic is further developed in the article by L. Kravchuk "Transformation of social services in Ukraine: deinstitutionalization and reform of the system of institutional care for children" [4]. A similar study of the processes of deinstitutionalization in Bulgaria is analyzed in the article by S. Page "Deinstitutionalization of Bulgarian Orphanages: A Study of Guardians' Discourses on Changing Reforms" [5]; in Romania in a study by F. Greenwell [6]. Various ways of forming the space of "family" on the basis of existing structures are considered in the article by L. Gnes "Architectural and Planning Organization of Family-Type Children's Homes" [7]. Among the domestic researchers of this topic, it is worth noting the works of V. Abyzov and O. Voloshchenko [8], N. Miroshnikov and Y. Doroshenko [9], Z. Obitochnaya [10] and others [11, 12].

Works on the problems of deinstitutionalization in African countries, such as Rwanda [13] or Egypt [14], may also be of some interest.

The purpose of the article is to outline practical approaches to the deinstitutionalization transformation of boarding schools in the era of modernism.

Research objectives: 1) to identify the main functional problems of modernist boarding schools in terms of their compliance with the methodology of "family" interpretation of children deprived of parental care; 2) to outline the spatial and functional techniques with the help of which it becomes possible to use residential buildings of the modernist era within the framework of the deinstitutionalization strategy.

Materials and methods of research. The materials for this study are samples of modernist boarding school buildings in Ukraine, mainly from the times of Soviet standard design. In particular, objects in three regions – Lviv, Kyiv and Odesa regions – were examined, the architecture of which largely reproduced the principles of the construction of typical secondary education institutions. Another important element of the study was the study of methods of positive growth, in particular, the axiological constitution of a personality oriented towards formation of a developed and harmonious "self-image" [15]. The combination of the results of research on the existing material base and the theoretical foundations of the axiogenesis of personality has become the main methodological basis for this work.

Statement of the main material. Modernist projects of boarding schools by their specificity relate to buildings designed for the simultaneous stay of a significant number of pupils and educators. The functional scheme was fixed and did not provide for the prospect of one or another transformation or readjustment for various purposes. Usually, large facilities, such as dining and kitchen blocks or sports facilities did not have the ability to expand the program of use. In this context, as the first and most obvious step, it is possible to admit a strategy of reorganization of such in the form of transformation of specialized institutions into an ordinary secondary school, but integrating a family-type boarding school with it. At least for especially elementary school students. This approach can help increase the level of social inclusiveness and create conditions for positive interaction between children with different communicative and structural characteristics.

At the same time, this approach should be perceived only as one of the possible ways of interpreting modernist boarding school buildings. The broader potential is due to the complex transformation of the structure, which is interpreted as a conglomerate of environments to accommodate several "families". Under these circumstances, there is a need for a more detailed rethinking of the functional statics of the planning structure, which must turn into a space capable of transformation and adaptation. The axiological constitution of the individual, the main task of which is to erase the difference between children deprived of parental care and their peers from ordinary families, requires close cooperation between planners and designers and developers of positive growth methods used in one case or another. However, on the basis of the analyzed material, we can say that the main factor here is the construction of effective communication connected, on the one hand, with the individual connection of the child with the educator who finds himself in the parental role, and on the other hand, gaining experience of friendly interaction with different age and target groups. In fact, the architectural interpretation of modernist objects boils down to adapting the abstract structure of the materialization of the communicative network in the conditions of the initially functionally determined spaces of the "institutional" institution.

With proper support and supervision from caregivers and responsible individuals, large institutional complexes can be used as flexible systems that integrate alternative and standard approaches to child care. This opens up wide opportunities for improving parenting methods and contributes to the positive development of children in such conditions. The provision of space for mixed use can be heterogeneous and not limited solely to educational functions.

In the case of middle-aged and older children, it is also important to consider the possibility of combining the care space with certain forms of production or business activity, as long as this is in the child's safety and best interests. Such forms of activity can be coworking centers, farms, information technology enterprises, art studios, and many others. In addition, it is important to consider improving cooperation with various religious and charitable organizations, which can also be integrated into care spaces. In such conditions, pupils of family-type boarding schools (from middle age to senior) will have the opportunity to develop valuable skills that will be useful to them after leaving the care facility, through active participation in various activities.

Taking into account the goals of the deinstitutionalization strategy, a promising direction is the development of methods and techniques that will allow the mutual stay of children from ordinary families and those in need of alternative care. Objects of modernist architecture are much more suitable for adaptation to ordinary secondary schools than family-type institutions, which opens up the possibility of combining these two functions and creating prerequisites for positive socialization. In such cases, the transformative volumes are smaller, but the space for the stay of "family" teams is also reduced. Therefore, such a structure is likely to accommodate no more than two or three families, which, in terms of education and extracurricular leisure, will be fully integrated into the traditional school system. At the same time, the difference in the length of stay in the same room will require measures to "equalize" the possibilities of choice, in order to avoid the feeling of inequality between the two children's groups.

This problem can be solved by expanding the functional interpretation of the environment, and forming activities that will be perceived as desirable for both categories of students. In addition, the concept of a wider integration of "family" educational environments into the environment is probably also promising. Often, modernist boarding schools were located surrounded by residential areas, the infrastructure of which has developed significantly over the past few decades. With this in mind, new "family" groups may have additional methods of positive socialization, such as the use of children's areas and playgrounds for playing with children from ordinary families, participation in the life of the local community, religious community, etc. Therefore, the integration of "families" into a wider circle of communication will gradually take place, overcoming hostility and a sense of danger from the environment through their own experience of positive communication with neighborhood groups. The above-mentioned direction of transformation also makes it possible to talk about expanding the potential for full-fledged adoption, which is based on more intensive contacts with various social groups, including those among which there are the most likely

candidates for parenthood.

When considering the strategy of mixed use of modernist institutional objects, it is important to take into account the combination of the methodology of increasing social involvement with the methodology of generational education. From the point of view of the organizational structure, this means the creation of several family teams within such an institution, where everyone has their own mentor and their own space for joint communication. However, along with joint activities, they also have the opportunity to interact with each other, transferring some educational tasks to older generations. Thus, an environment is created where several communicative groups have a single, albeit complex, system of adaptive ties.

The architectural transformation of an institutional boarding school, the style of which belongs to the modernist direction, in this context, includes a change in the system of corridors to a structure of visually separated spaces designed to serve each communication center separately (Fig. 1 and Fig. 2, Fig.3). Since many of these buildings are designed according to standard schemes, it is possible to develop a general strategy for their reconstruction based on the typical features of their planning structure. For example, the space required for alternative family care can be arranged in the end parts of the enclosures. This creates an opportunity for additional visual separation both inside and outside the building, as it becomes possible to place separate entrances and small adjacent territories intended exclusively for one "family".

Fig. 1. The plan of the educational complex for 175-200 children was developed by the Ministry of Regional Development

Fig. 2. The plan for a kindergarten with 35 to 45 places was developed by the Ministry of Regional Development
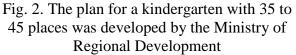
Fig. 3. The plan for a kindergarten with 45 to 60 places was developed by the Ministry of Regional Development

With such an arrangement of modernist buildings, when several small micro-groups of children and educators are in this place, meals can take place both inside an isolated space (for example, breakfast) and in common areas used by all groups (for example, lunch).

The planning and island transformation, which is considered here, should not be perceived as complete and final, but should have the potential for constant change. In this sense, the intended structure can acquire a metabolic character, when the completeness of the architectural image does not imply the completeness of the functional interpretation. It can be assumed that the reconstruction of the frozen functionalism of the modernist construction will lead to a long morphological metamorphosis, which on the scale of a longer time will significantly change the

architectural appearance of the building, in which, however, different layers of collective and individual memory of different generations of pupils will be preserved. These layers, in turn, will create a sense of "depth in time" where each successive generation will see evidence of the positive experience of their predecessors. In this case, the institution, which operates in the form of a kind of "chronotope", will constantly increase its adaptive and educational effectiveness over time.

Due to the design features that were typical for the Soviet period, when reorganizing institutional modernist complexes, it is important to focus on the introduction of new strategies of independence and energy efficiency. Considering the financial aspect of operating such institutions (whether at the expense of the state budget or through private funds), the sustainability program should be based on achieving maximum autonomy in the management of the institution. This can be achieved through the use of active and passive means for energy self-sufficiency.

Familiarization with and management of these tools can also play an important role in the process of teaching children ecology, contributing to their acquisition of both theoretical and practical knowledge about environmental conservation and the promotion of a nature-friendly attitude. In addition, from a pedagogical point of view, the values of self-sufficiency that are associated with engaging this kind of strategy will help overcome feelings of vulnerability and overdependence on social conventions. In the future, it is worth talking about the involvement of more in-depth educational programs that promote the principles of sustainability and self-sufficiency, primarily through innovative methods of teaching technological and physical aspects, the creation of experimental experiences with their own involvement in the creation of sustainable practices and energy-efficient devices.

Taking into account the above analysis, it is possible to formulate the following principles of deinstitutionalization transformation of existing objects of modernist architecture (mainly of the Soviet period of construction):

a) Internal fragmentation: the division of the common space into several isolated zones for the residence of individual family groups. This principle will make it possible to use the dead-end and end sections of modernist complexes as separate environments, for family groups with a sufficient degree of isolation and a balance of separation and cooperation. This approach contributes to the creation of efficient and functional spaces where each family team can benefit from their own privacy, while ensuring a high degree of isolation and a balance between individualized and collective activities. This concept opens up new possibilities for organizing spaces where different family groups can coexist, providing an improved living environment for each of them. Architectural design opens up the potential for deconstructing an overly rationalized living environment, which involves the introduction of elements of surprise and irrationalism, and helps to overcome the monotony of everyday life. This process expands the possibilities and depth of architectural solutions, allowing for the creation of expressive and unique spaces that go beyond the ordinary and bring a new level of individuality to the environment. Architects, applying this approach, can enrich the space with unexpected details, breaking stereotypes and promoting the development of creative thinking in rebuilding the world around them.

b) Micro-collective isolation: the physical separation of family groups, both within the premises and in the surrounding areas. It provides an opportunity to expand the potential of the previous principle, including through the use of separate adjacent plots, the existence of which was inherent in the modernist planning of boarding schools. In the context of micro-collective isolation, the physical separation of family groups is considered, both within buildings and in surrounding areas. They typically have uniform geometric contours with a leveled patch of land that can be reconfigured into a more demanding and diverse landscape environment, while taking into account various aspects of the natural environment, such as vegetation, topography, and water features. This transformative opportunity allows for the creation of attractive and functional spaces that adapt to the changing needs and aesthetic requirements of users, and influence the overall character of the urban landscape, creating a more harmonious and environmentally balanced environment.

c) Inclusive synergies: creating shared environments outside of isolated groups based on the use of available spaces for different purposes, such as courtyards, canteens, gyms and the

surrounding area. This principle involves the use of collaborative spaces for the implementation of positive socialization techniques, which is one of the key goals of treating children deprived of parental care. The potential of this direction is associated with the tradition of building large sports and food blocks, which often exceed the existing need, due to a decrease in the number of students. This provides additional opportunities for transforming and supplementing collaborative environments, giving them more flexible and adaptive functionality. Reducing the number of students in educational institutions, while at the same time being highly efficient, also contributes to lower energy consumption and creates more comfortable and environmentally friendly spaces for learning and socializing

d) Sustainable energy efficiency: focus on achieving maximum self-sufficiency of the system for meeting the vital needs of the complex. Here we are talking about a set of measures to transform energy-consuming premises designed for the uncontrolled use of exhaustible resources, into a self-sufficient and sustainable structure, maximally provided with its own renewable sources, which will make it possible to reduce the cost of maintenance. The use of energy-saving technologies and practices in such institutions can lead to significant economic benefits that will be used to improve the quality of life and provide additional resources for children's development. Appropriate use of energy also contributes to the reduction of emissions and has a positive impact on the ecological state of the environment, creating a healthy and safe place to grow and learn.

In connection with the specifics of Soviet modernism, which was based on typical design, it is also worth talking about the prospect of typological optimization: the use of general architectural solutions for the development of unified methods of deinstitutionalization transformation of boarding schools of the modernist style. This approach is aimed at reducing the costs of the transformation process and may require separate theoretical and practical efforts, and in some cases, even ignorance.

In the future, this topic can be developed in the direction of studying the potential of differentiation of different ages, which is associated with: a) special methods of growth, which are designed to involve older children in the upbringing of younger ones, as well as to gain experience of socialization in more complex groups; b) studying the possibility of transforming the former boarding school into a comprehensive school with partial residence of "families" of children deprived of parental care with educators.

Conclusions:

1. The following principles of deinstitutionalization transformation of existing objects of modernist architecture are formulated: The principle of internal fragmentation: the division of the common space into several isolated zones for the residence of individual family groups. This principle will make it possible to use the dead-end and end sections of modernist complexes as separate environments, for family groups with a sufficient degree of isolation and a balance of separation and cooperation. The principle of micro-collective isolation: the physical separation of family groups, both within the premises and in the surrounding areas. It provides an opportunity to expand the potential of the previous principle, including through the use of separate adjacent plots, the existence of which was inherent in the modernist planning of boarding schools. The principle of inclusive synergy: the creation of shared environments outside of isolated groups based on the use of existing spaces for different purposes, such as courtyards, dining rooms, gymnasiums and the surrounding area. This principle involves the use of collaborative spaces for the implementation of positive socialization techniques, which is one of the key goals of treating children deprived of parental care. The principle of sustainable energy efficiency: the focus on achieving maximum self-sufficiency of the system for meeting the vital needs of the complex. Here we are talking about a set of measures to transform energy-consuming premises designed for the uncontrolled use of exhaustible resources, into a self-sufficient and sustainable structure, maximally provided with its own renewable sources, which will make it possible to reduce the cost of maintenance.

2. The range of possible further research on this topic is outlined, in particular: the prospect of typological optimization: the use of general architectural solutions for the development of unified

methods of deinstitutionalization transformation of boarding schools of the modernist style – this approach is aimed at reducing the costs of the transformation process and may require separate theoretical and practical efforts, and in some cases, even ignorance; search for spatial expression of special methods of growth, which are designed to involve older children in the upbringing of younger ones, as well as to gain experience of socialization in more complex groups; study of design solutions for the possibility of transforming a former boarding school into a secondary school with partial residence of "families" of children deprived of parental care with educators.

References

[1] C. Nelson, N. Fox, Ch. Zeanah, *Romania's Abandoned Children Deprivation, Brain Development, and the Struggle for Recovery*. Cambridge: Harvard University Press, 2014.

[2] Pro Natsionalnu stratehiiu reformuvannia systemy instytutsiinoho dohliadu ta vykhovannia ditei na 2017-2026 roky ta plan zakhodiv z realizatsii yii I etapu. Kabinet Ministriv Ukrainy, Rozporiadzhennia vid 9 serpnia 2017 r. № 526-r. Kyiv, 2017. [Online]. Available: https://zakon.rada.gov.ua/laws/show/526-2017-%D1%80#Text. Accessed on: September 10, 2022.

[3] B. Lough, "Rise and demise of orphanages in Ukraine", *European Journal of Social Work*, 6(1), pp. 49-63, 2003. [Online]. Available: https://doi.org/10.1080/01369145032000099648. Accessed on: September 15, 2023.

[4] L. Kryvachuk, "Transformation of Social Services in Ukraine: the Deinstitutionalisation and Reform of the Institutional Care System for Children", *Labor et Educatio*, 2018, pp. 129-148.

[5] S. Page, *Deinstitutionalisation of Bulgarian Orphanages: Examining Caregiver Discourses on the Changing Reforms*, 2018.

[6] F. Greenwell, "The impact of child welfare reform on child abandonment and deinstitutionalisation", *In Annales de démographie historique*, no. 1, pp. 133-157, 2006.

[7] L. Hnes, "Arkhitekturno-planuvalna orhanizatsiia dytiachykh budynkiv simeinoho typu", *Suchasni problemy arkhitektury ta mistobuduvannia*", no. 24, pp. 312-321, 2010. [Online]. Available: http://nbuv.gov.ua/UJRN/Spam_2010_24_46. Accessed on: September 9, 2023.

[8] V. Abyzov, O. Voloshchenko, "Formuvannia predmetno-prostorovoho seredovyshcha dytiachykh prytulkiv", *Aktualni problemy suchasnoho dyzainu, Zbirnyk materialiv Mizhnarodnoi naukovo-praktychnoi konferentsii*, no. 2, pp. 112-115, 2018.

[9] N. Myroshnikova, Yu. Doroshenko, "Budynky vykhovannia ditei-syrit: retrospektyva ta typolohiia zakladiv", *Naukovo-tekhnichnyi zbirnyk Kyivskoho natsionalnoho universytetu budivnytstva i arkhitektury*, no. 38, pp. 445-451, 2015.

[10] Z. Obitochna, "Functional and planning organization of the center for joint temporary stay of the elderly and orphans", *Modern problems of architecture and urban planning*, no. 62, pp. 292-303, 2022.

[11] P. Sankov, S. Tkach, A. Podolinnyi, "Metodyka formuvannia budynkiv - internativ dlia sotsialnoi adaptatsii ditei doshkilnoho ta shkilnoho viku", *Visnyk Prydnistrovskoi derzhavnoi akademii budivnytstva i arkhitektury*, no. 90, pp. 164-170, 2016.

[12] A. Arkhaimova, "Pryntsypy arkhitekturno-planuvalnykh rishen sotsialno-reabilitatsiinykh tsentriv (dlia bezprytulnykh ditei ta pidlitkiv)", avtoref. dis. cand. arkhit.: 18.00.02, Kyivskoho natsionalnoho universytetu budivytstva i arkhitektury, Kyiv, 2005.

[13] J. Hunsley, R. Crawley, E. Styffe, A. West, C. Call & C. "Hategekimana, Effectiveness of a traumainformed intervention in a deinstitutionalisation programme in rural Rwanda", *Child & Family Social Work*, no. 27(2), pp. 287-298, 2022.

[14] A.H. Abdel Aziz, *Deinstitutionalisation and Alternative Care Systems: A Case Study of Children Without Parental Care in Egypt. Institutional Reforms, Governance, and Services Delivery in the Global South*, pp.75-99, 2022.

[15] Z.S. Karpenko, "Psykholohichni osnovy aksiohenezu osobystosti", dys. d-ra psykhol. nauk: 19.00.07, Prykarpatskyi un-t im. V. Stefanyka, Ivano-Frankivsk, 1999.

ПРОСТОРОВО-ФУНКЦІОНАЛЬНІ ПІДХОДИ ДО СУЧАСНОЇ ТРАНСФОРМАЦІЇ ІНТЕРНАТІВ ДОБИ МОДЕРНІЗМУ

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Анотація. У статті обґрунтовано ряд ймовірних підходів для просторово-функціональної трансформації інтернатних споруд, котрі були зведені у добу модернізму в рамках радянського типового будівництва. Головною метою даної роботи було створення теоретичної бази для поступового процесу трансформації існуючої матеріальної бази піклування про дітей позбавлених батьківської опіки в рамках стратегії «деінституалізації», яка, у свою чергу, основується на привілеюванні колективів сімейного типу.

В сенсі архітектурної стратегії розглянуто процес трансформації «інституційованих» об'єктів традиційної планувально-просторової структури базованої на функціоналістично-раціоналістичному способі проектування у «деінституціалізовані» заклади із виділенням кількох зон для колективу сімейного типу. Передбачається, що цей спосіб досягнення цілей деінституціалізації є лише одним із можливих шляхів, пов'язаних із ситуацією, коли старі приміщення соціальної опіки перестануть виконувати свої функції у традиційному режимі і постане питання про їх нове подальше використання. Крім того, висловлено припущення, що через наявність певної кількості інтернатних об'єктів збудованих на основі так званих типових проектів, може іти мова про створення на їх основі «типових» рекомендацій, які, певною мірою, спростять і здешевлять процес переорієнтації закладів соціальної опіки про дітей позбавлених батьківського піклування на формат сімейного колективу.

Окреслено чотири трансформативних принципи, які дозволять здійснити процес переобладнання старих модерністських об'єктів, переважно зведених у радянський період, згідно засад деінституціалізаційної стратегії, яка прийнята в Україні за основу державної програми трактування дітей, що потребують соціальної опіки. Вони охоплюють собою комплекс сфер, зокрема таких як позитивне конституювання особистості дитини, її ефективна соціалізація, стала енергоефективність тощо.

Ключові слова: деінституціалізація, переобладнання, типове проектування, модерністські об'єкти, заклади сімейного типу.