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BREAKING THE WAVES. NEW FORMS OF HEALTHCARE ARCHITECTURE AGAINST TRADITIONAL DESIGN CANONS

PRZEŁAMUJĄC FALE. NOWE FORMY ARCHITEKTURY SZPITALI WOBEC TRADYCYJNYCH KANONÓW PROJEKTOWANIA

Abstract

The architecture of healthcare facilities has always been linked to functionality and the requirements of the therapies carried out inside them. However, their external form has most often taken on the architectural styles characteristic of the era in which they were built, such as the Middle Ages and the Renaissance. However, the changes brought about by the Industrial Revolution and scientific discoveries in the 19th and 20th centuries shifted architects' attention towards technological aspects and the requirements of modern treatment methods. This sometimes meant losing sight of a holistic approach to human health, the effects of which can be seen in contemporary mega-structures and hospital complexes. Today, a variety of possibilities allow us to view historic buildings in a new light, prompting questions about the current style of healthcare architecture and the influence of postmodernism on the form and function of hospitals. Will the avant-garde see a return to old solutions, or will new technologies create a new form of healthcare facility?

Keywords: healthcare architecture, canon, historical approach

Streszczenie

Architektura obiektów ochrony zdrowia od zawsze związana była z funkcjonalnością i wymaganiami prowadzonych w jej wnętrzach terapii, jednak jej zewnętrzna forma najczęściej przyjmowała style charakterystyczne dla epoki powstania (średniowiecze, renesans). Zmiany, które przyniosły rewolucja przemysłowa i odkrycia naukowe w XIX i XX w., skupiły uwagę architektów na aspektach technologicznych oraz wymaganiach nowoczesnych metod leczenia, gubiąc przy tym czasami aspekt związany z holistycznym podejściem do zdrowia człowieka – czego efekty możemy dostrzec we współczesnych mega strukturach i kombinatach szpitalnych. We współczesnym świecie, w którym różnorodność możliwości pozwala na nowe spojrzenie na historyczne budynki, pojawiają się pytania o obecny styl architektury obiektów ochrony zdrowia oraz o wpływ ponowoczesności na formę i funkcję szpitali. Czy awangardą będzie powrót do dawnych rozwiązań, czy też nowe czasy (nowe technologie) wytworzą nową formę obiektów ochrony zdrowia?

Słowa kluczowe: architektura szpitali, kanon, retrospekcja

1. INTRODUCTION

Postmodernity is the current state of culture. It is a world in which the old principles of modernism and the avant-garde are no longer binding dogmas, and architecture has become the sum of its diversity. What was a canon – today becomes the past, for young people often difficult to understand. The modern age is all about the speed of change, adapting to new trends, and the rapid fading into oblivion of what fascinated and delighted only a few years ago. This raises particular questions for healthcare facilities, which have always had to reconcile functional requirements with aesthetic ambitions. Does postmodernity offer them a new identity? Should the traditional design canon, which has influenced recognition and facilitated understanding of how hospital facilities have functioned for centuries, influence technology-dominated mega-hospital structures? In this case, can architecture and history together create new value, or should their paths diverge?

In the current reality, there is no single dominant design style. Postmodernity is a multiplicity – minimalism, deconstructivism, postmodernism, organic architecture, and parametric architecture all function in parallel alongside each other, often intertwining. In the case of hospital buildings, this multiplicity opens up new possibilities for the search for individual solutions tailored to local requirements and the character of the facility. In this case, history can be seen as a constraint.

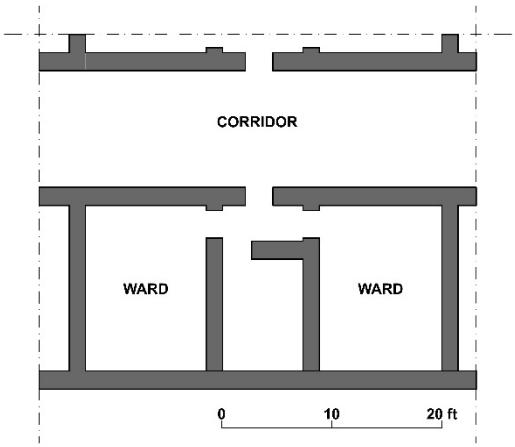
2. THE ROLE OF HISTORY AND TRADITION IN SHAPING HEALTHCARE FACILITIES

The architecture of healthcare facilities correlates closely with the times in which they are built. And this is not so much in relation to styles in art and architecture, but primarily as a consequence of the development of medical technology, advanced treatment processes, and building procedures. The very beginnings of medicine can be traced back to very distant epochs and ancient civilisations, i.e. the Egyptian, Indian, or Chinese culture. Defined forms of hospitality, on the other hand, appear in Ancient Rome and Ancient Greece, forming quite distant assumptions, both in terms of composition and, above all, in terms of form and function. In ancient Greece, Asclepieia, temples of Asclepios, the god of medicine, were the centres of healing functions. Asclepieia were built in places generally considered to be healthy in terms of climate, abundant in water, mineral springs, and rich vegetation. For patients arriving at the Asclepion, there were reception rooms, rooms for treatments, baths, bedrooms where patients awaited the appearance of the god, administrative buildings, and the dwellings of the priests who administered the treatment. In addition to the temple porticoes, the role of hospitals was also fulfilled by their arcades, i.e. the stoa. The temple area was often enriched by a theatre, a palestra, and a stadium, guaranteeing comprehensive therapy. A total of more than 320 Asclepieia were erected in ancient Greece. They always included a tholos, i.e. a centrally located circular building whose basement contained labyrinths of corridors, based on the model of a molehill, providing a place for thanksgiving offerings[1].

[1] Z. Podgórska-Klawe, *Od hospicjum do współczesnego szpitala*, Wydawnictwo Ossolineum, Wrocław 1981.

The foundations of one of the most interesting buildings of this type can be found at Epidauros. It is formed by six circles of masonry situated concentrically: the three outer ones had technical functions, being the footing for the outer colonnade, the cell wall and the inner colonnade, which was offset far from the wall, while the three central circles supported its floor. In the centre was the entrance to the underground section. Passageways were located between the circles, and cross walls divided the perimeter of each corridor, the height and width of which were designed to allow human movement. On the one hand, the labyrinth can be seen as a symbol of Hades, or interpreted as a symbolic cave of the serpent – the symbol and attribute of Asklepios.

In ancient Rome, the counterpart of the god Asklepios was Aesculapius. On the other hand, the so-called military and field hospital units, or Valetudinaria, played an important role in the development of hospitality (Ill. 1), which were the functional-spatial equivalent of the Greek iatreions (1st century AD). The establishment of the centres was determined by purely economic considerations – it was easier to cure a slave than to acquire a new one. Roman medicine did not take care of cripples and bedridden patients, who were left to their own devices or sent to one of the islands in the Tiber, where there was a voluntary service. The most dramatic practice was the disposal of the incurably sick or wounded (from the abandonment of infants by the Spartans in the Taygetos mountains, this is referred to as the Taygetan mentality).



Ill. 1. Valetudinarium, the scheme, source: prepared by the authors

The Valetudinarium was characterised by a very well-designed spatial layout: the floor plan was very simple and at the same time very functional, the scale of the establishment was about 70x80m, the main compositional element was an inner courtyard with a portico, and then two sequences of rooms separated by a so-called circular corridor and a characteristic 'triangular' arrangement of rooms. The two large patient rooms were separated by a small, dark vestibule. This solution allowed easy access to the patients and ensured that they could be separated.

Subsequent eras brought a close link between hospital facilities and the Christian faith. In the Middle Ages, the care of the sick was identified with God's mercy and the duty, enshrined in the Bible, to help fellow human beings in need. With the Giustinian Code of 534, a distinction was made between healing and caring institutions according to their purpose – orphanage, hospice, or hospital. Undoubtedly, the first forms of medieval hospitals were seen as places

of suffering. The function of caregivers was usually taken over by monastic communities, hence the forms of hospitals of this period resembled monastic establishments or churches, with a centrally located altar. Examples include the monastic hospital at the Benedictine Abbey on Monte Cassino Hill (6th century), or the hospital at the Abbey of Cluny of St Gallen (13th century). A characteristic feature of these buildings was a compact functional and spatial structure resembling a church with an altar or chapel, usually located outside the city walls. In medieval hospitals, patients were most often divided by gender, and the rooms were multi-bedded – the institution itself, by today's standards, had a primarily hospice function.

In a similar form, hospitals continued to function virtually unchanged until the 15th century. In 1419–1451, the first palatial hospital building was erected in Florence, representing a breakthrough in previous practice: the Ospedale degli Innocenti, designed by Filippo Brunelleschi. The centrepiece of the establishment was a courtyard surrounded by cloisters, which provided light and air to the adjoining rooms. The rooms for children and the sick were arranged around the cloister in a clear and repetitive manner, which corresponded to a new approach to the building's care function. The most distinctive element of its architecture remains the Renaissance loggia, the form of which draws on ancient models. Here Brunelleschi used a juxtaposition of whitewashed plaster and grey stone, giving the whole a harmonious and clear expression. The 71-metre-long façade was divided into nine bays, covered by sail vaults, and the details (medallions depicting babies) emphasised the building's function and encouraged financial support. The open form of the loggia symbolically connects the space of the city with the space of care, making the building an element of public life, while emphasising the humanist ideal of the Renaissance – architecture that is open, transparent and serves the public.

In the following decades, the arcade motif was a characteristic element of the façades and cloisters of many Renaissance buildings. This solution was also continued in other hospitals, such as the Ospedale Maggiore in Milan (auth. Filarete, 1456), where arcaded courtyards formed a clear spatial arrangement, or the Ospedale del Ceppo in Pistoia (16th century).

With the advent of the Renaissance, the process of treatment and care began to be identified less and less with the Church, and hospitals also became a sign of the ruler's social commitment, which was often reflected in the high artistic and architectural level of the buildings. At the end of the 14th century, the plague epidemic further stimulated interest in secular health care. The Maggiore Hospital (Ca'Granda), already mentioned, is an example of the reorganisation of health care. The main objective was to rationally adapt the space to the needs of different users. The rectangular site was divided into two parts separated by a central courtyard, in the centre of which the church took its place. On either side were four hospital rooms with cross vaults and smaller courtyards surrounded by monumental arcades. Although clearly inspired by medieval models, Filarete's design brought a breath of fresh air – for the first time, the functional layout was consciously subordinated to the demands of hygiene, providing adequate air and light for patients and promoting natural ventilation of the rooms. The new definition of hospital according to Archbishop Enrico Rampini's code, which emphasised the healing function of hospitals (as opposed to the care of the poor and dying) also brought about a change in attitude towards doctors – their needs began to be reflected in the functional layouts of healthcare facilities[2].

[2] G. Lacanna, *Med/Architecture: the typological evolution of paradoxical buildings* [in:] *Proceedings of the 2nd ICAUD International Conference in Architecture and Urban Design*, Epoka University, Tirana, Albania, 08–10 May 2014, paper no. 293, p. 293–4, https://www.researchgate.net/publication/285345308_MedArchitecture_the_Typological_evolution_of_Paradoxical_Buildings?channel=doi&linkId=565d88a508aefe619b2602f4&showFulltext=true (access: 24.08.2025).

Between the seventh and eighth centuries, a gradual development of medical science was observed in Europe, usually associated with academia. The process of change in terms of the form of hospital buildings was slow, and the wellbeing of patients was not considered a priority. There was still little attention paid to the general principles of hygiene, which was the reason for the huge number of hospital infections and related deaths. The inhumane conditions in hospitals often became a reason for protests by the population, which undoubtedly contributed to the emergence of new concepts of functional layouts. In 1784, the French government set up a commission of experts from the Academy of Sciences to evaluate ideas relating to the design of the new Hôtel-Dieu hospital (the previous one had been set on fire by disgruntled Parisians). It was on this occasion that it was concluded that hospitals should be treated as machines for healing, at the lowest possible cost, as J.R. Tennon wrote in 1788[3]. The design focus was on the pavilion system, with rules on the number of beds (up to 34 per row), natural ventilation, or the size of windows.

The 19th century saw the separation of medical, caring, and profit-making functions, and the hospital took on its contemporary significance. Simple pavilion-like functional layouts and limited technicisation provided reasonably favourable treatment conditions, usually dependent on the patient's wallet. The problem was the great need for space – finding a suitable plot of land in densely built-up cities for such spatially complex facilities was a major difficulty, as was ensuring proper communication between the different parts. Towards the end of the century, with the development of bacteriology, came the development of laboratory diagnostics with a direct impact on the development of facilities, work organisation, architecture, and the attitude of doctors towards patients. The turn of the century hospital is a centre profiled by speciality, its functional layout becoming divided into departments: diagnostics, patient rooms, or treatment areas[4].

At the beginning of the 20th century, the idea of building hospitals as compact buildings resurfaced, which was also dictated by the drastic increase in land costs. The discovery of bacteria as the cause of many diseases and the research into penicillin (1928) allowed the importance of ward isolation (pavilions) and natural ventilation to be reduced. Vertical connections began to be considered more efficient, and improvements were seen in the centralisation and rationalisation of technological networks (electricity, water, sewerage, heating). The possibilities offered by the use of skeletal, steel, and reinforced concrete structures favoured the creation of gigantic, centralised facilities, richly equipped and giving the impression of self-sufficient, independent assumptions.

After the end of the Second World War, increased interest in new typologies was observed in hospital construction. Newly built hospitals resembled combinations for the process of treating patients – type H (nursing and outpatient wards connected by a treatment wing), type T (men's and women's wards with a central treatment wing), type K (two right wings for men and women, and the left one a treatment ward), the podium tower (a low block designed for outpatient and treatment wards and a high one for longer-stay patients) or the comb layout popular in the 1960s–1980s (a group of blocks connected by corridors and galleries, with a clear axis of symmetry)[5].

An example of an avant-garde approach and an attempt to introduce very innovative formal solutions to hospital construction was in the design of the hospital for Venice by Le

[3] J.R. Tenon, *Mémoires sur les hôpitaux de Paris*, de l'imprimerie de Ph.-D. Pierres 1788.

[4] G.B. Risse, *Human bodies revealed: Hospitals of post-revolutionary Paris* [in:] idem, *Mending bodies, saving souls: A history of hospitals*, Oxford Academic Press, New York 1999, pp. 289–338, https://academic.oup.com/book/52643/chapter-abstract/421822815 (access: 24.08.2025).

[5] G. Lacanna, *op. cit*, p. 293–7.

Corbusier and his team. Work on this project began in 1964–1965 and continued despite the designer's death. The whole concept was based on an interpretation of the historical layout of Venice, and its scale (comprising 1,200 beds) even gave it the character of an urban design. In the patient rooms, the dimensions of the Modulor were taken into account to optimise space, while the geometric structure of the establishment was designed in a modular layout, leaving room for further expansion. The hospital for Venice was part of the "city within a city" concept, but despite the completion of the design work, it was never realised.

3. COOPERATIVITY. TENSIONS AND CONFLICTS

The solutions shown above, although effective from a technological and economic point of view, resulted in the patient no longer being treated as a subject within them. Hospitals in the second half of the twentieth century became monumental factories for the "repair" of health, too complexly structured and too isolated from the urban context to take into account the individual needs of the patient. This coincided with an increased interest in research on the impact of space on human well-being, especially in the context of the healing and recovery process. The environmental theory pioneered by Florence Nightingale (light, ventilation, silence and cleanliness as factors supporting recovery) continued in the following years – the Planetree movement with the idea of a healing environment, or Roger Ulrich's classic research in 1984 showed that the human factor was of great importance and aroused great interest among designers[6]. The institutionalisation of evidence-based design methods and patient-centred improvements at the turn of the 20th century confirmed that the parameters of a space translated into health experiences and behaviours[7].

As a result, the contemporary situation of hospital buildings comes down to the need to find difficult compromises[8]. On the one hand, there are still 20th-century mega-structures resulting from multi-million-dollar investments that cannot be abandoned. On the other hand, there is an increasing emphasis on the need for changes to promote patient comfort – but this is often in conflict with the existing structure and spatial layout. In practice, extensions, conversions, and additions to existing premises are used.

In the history of the construction and adaptation of selected post-war hospital buildings in Poznań, one can find attempts to solve the above dilemmas and to combine a functional and humanistic approach. The Voivodship Hospital on Lutycka Street, built in 1966–1972 to a design by Henryk Marcinkowski, was a manifestation of modernism (Ill. 2). Its function went beyond traditional medical treatment and included areas of disease prevention, as well as environmental and social aspects of patients. The building was constructed using industrialised technology, with prefabricated concrete elements. Its modern body consists of two cuboidal buildings (three- and eight-storeys) and a rotunda, compacted by a transverse link.

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[6] R.S. Ulrich, *View through a window may influence recovery from surgery*, "Science" 1984, no. 4647, pp. 420–421, https://www.science.org/doi/10.1126/science.6143402 (access: 24.08.2025).

[7] T.K. Ferris, *Evidence-based design and the fields of human factors and ergonomics: Complementary systems-oriented approaches to healthcare design*, "Health Environments Research & Design Journal" 2013, no. 3, pp. 3–5.

[8] M. Tomanek, *Technologia medyczna w projektowaniu obiektów szpitalnych*, "Śląsk" Wydawnictwo Naukowe, Katowice 2015.

Ill. 2. Provincial Hospital in Poznań, photo by author

On the other hand, the complex of the MSWiA Hospital from 1976 (Ill. 3), also by Marcinkowski (cooperation: Piotr Namysł, Maria Washko, and Tadeusz Biegański), located in the neighbourhood of the Wojewódzki Hospital, took the form of a vertical block with a characteristic spatial-sculptural elevation. The rhythm of the faults and vertical divisions was designed to provide adequate lighting for the patients' rooms, a solution rarely used in Poland but popular abroad, for example in Sweden (Löwenströmska, 1960). The hospital was surrounded by a garden, including a small amphitheatre, supplemented later by staff blocks.

Ill. 3. The Ministry of Internal Affairs and Administration hospital in Poznań, 2025, photos by author

Another example is the extension of the historic hospital complex at 28 Czerwca Street in Poznań (now the Wiktor Degi Orthopaedic and Rehabilitation Clinical Hospital). The origins of the hospital complex date back to the 19th century, when the Sisters of the Heart

conducted their educational activities in the Neo-Gothic building. The next owner located the Garczyński Charitable Institution there. At the beginning of the inter-war period, the building was handed over to the University of Poznan for use as an orthopaedic clinic. In 1938, modernisation was carried out, designed by the Poznań architect Władysław Czarnecki. The next reconstruction took place in the late 1940s and early 1950s. The pavilion with a lecture theatre gave the Institute of Rehabilitation a modernist flair. One of its characteristic elements was the reinforced concrete roof, the finial of which extended above the contour line of the façade. This was achieved by pulling back the upper storey, while at the same time creating a canopy over a small terrace. The articulation of the entire pavilion was emphasised by the harmonious arrangement of the roof ceiling (Ill. 4).

Ill. 4. Institute of Orthopaedics and Rehabilitation in Poznań, 2025, photos by author

It is worth mentioning at this point that, despite several phases of construction, the concept of a hospital-hotel, with a high standard of patient stay, combined with psychotherapy and rehabilitation, was consistently pursued at this site.

The next phase of the expansion of this premise concerns modern times[9]. The new building designed by CDF Architekci in 2020, as a response to a competition, is being built in the northern part of the complex, on Krzyżowa Street. Its form fits in with the character of the Wilda district, emphasising the historical context. The shaped development is an extension of the existing infrastructure, preserving and complementing the existing urban layout. Cutting out the corner of the building from the north-western side made it possible to visually emphasise the entrance zone. The designed building clearly fits in with the historical space of the hospital establishment, complementing it with technologically necessary spaces and at the same time maintaining an excellent connection with the city, necessary for the day rehabilitation wards. The building block has been set back from the street in order to preserve the row of trees and improve the lighting of the neighbouring houses, and its height does not exceed that of the surrounding buildings. The architectural form is based on the contrast of the massive lower part with the rhythmic, slender divisions of the upper storeys. Green terraces on the roofs of the lower parts allow for the introduction of additional recreation and relaxation spaces for patients and staff, while the separation of the upper floors has made it possible to open up the interior of the children's ward to the surrounding greenery. The building uses environmentally friendly solutions, including rainwater retention, biodiversity, and a photovoltaic installation (Ill. 5).

[9] *Ortopedyczno-Rehabilitacyjny Szpital Kliniczny im. Wiktora Degi UM w Poznaniu* [project description] [in:] CDF Architekci, https://cdf.net.pl/pl/focus-project/szpital-degi/ (access: 24.08.2025).

Ill. 5. Wiktor Dega Orthopedic and Rehabilitation Clinical Hospital of the Medical University of Poznań, CDF Architekci, source: visualizations: *Ortopedyczno-Rehabilitacyjny Szpital Kliniczny im. Wiktora Degi UM w Poznaniu* [project description] [in:] CDF Architekci, https://cdf.net.pl/pl/focus-project/szpital-degi/ (access: 24.08.2025); implementation 2025: photos by author

The contemporary extension of the Dega Institute, realised by CDF Architects, is an expression of postmodern diversity: architecture here becomes a dialogue with context and nature, opening up to terraces and greenery, while responding to the ecological challenges of the 21st century. So we see that, from modernist megastructures to ecological reinterpretations, hospital architecture in Poznań mirrors the tensions between history and avant-garde, function and beauty – and also proves that postmodernity has not brought a single path, but a multiplicity of parallel solutions (The part of this chapter concerning the hospital extension was written on the basis of information made available by the authors of the project: CDF Architekci)[10].

4. SUMMARY

Newly designed hospitals are increasingly taking patient needs into account, which to some extent represents a return to old solutions and historical functional layouts. However, hospitals remain buildings in which contradictions clash – they must be efficient enough to be profitable, but also patient-friendly and easy to understand, open and safe, centralised and dispersed, compact and providing access to nature. In this context, it is difficult to find the perfect solution[11]. And although it can be said that the era of designing megastructures based solely on modern technologies has come to an end, one direction for the development

[10] *Ortopedyczno-Rehabilitacyjny Szpital Kliniczny im. Wiktora Degi UM w Poznaniu*, *op. cit.*

[11] M. McKee, J. Healy, *Hospitals in a changing Europe*, Open University Press, Buckingham 2002.

of hospital construction has not been set, but rather, many paths have been shown, each of which must contend with different compromises.

When comparing hospital buildings from different eras, it becomes apparent that they were shaped not only by architectural and artistic styles, but equally by developments in medical technology, treatment techniques, and even the socio-political situation and attitudes towards religion. It is worth bearing in mind the influence of cultural factors that determine formal solutions, the scale of buildings, and even details.

The history of hospital architecture shows that each era developed its own models, which shaped the way people thought about healthcare spaces for a long time – from medieval hospices, through Renaissance palace designs modelled on the Ospedale degli Innocenti, to 20th-century modernist megastructures. Contemporary projects, such as those in Poznań, prove that although construction and medical technologies are the primary determinants of form, humanistic and pro-environmental solutions are also slowly gaining importance[12]. Sensitivity to the context of the place – the genius loci – has not disappeared, nor has the possibility of using historic structures and taking advantage of their attractive locations in city centres.

In this context, the avant-garde may be the ability to reinterpret old values in the light of new technologies, rather than choosing between them. Hospital architecture remains a field of dynamic tension between tradition and innovation, technology and culture. It does not reflect history, but neither does it break with it, seeking novelty in dialogue with the existing.

References

[1] Ferris T.K., *Evidence-based design and the fields of human factors and ergonomics: Complementary systems-oriented approaches to healthcare design*, "Health Environments Research & Design Journal" 2013, no. 3, pp. 3–5.

[2] Lacanna G., *Med/Architecture: the typological evolution of paradoxical buildings* [in:] *Proceedings of the 2nd ICAUD International Conference in Architecture and Urban Design*, Epoka University, Tirana, Albania, 08–10 May 2014, paper no. 293, https://www.researchgate.net/publication/285345308_MedArchitecture_the_Typological_evolution_of_Paradoxical_Buildings?channel=doi&linkId=565d88a508aefe619b2602f4&showFulltext=true (access: 24.08.2025).

[3] McKee M., Healy J., *Hospitals in a changing Europe*, Open University Press, Buckingham 2002.

[4] *Ortopedyczno-Rehabilitacyjny Szpital Kliniczny im. Wiktora Degi UM w Poznaniu* [project description] [in:] CDF Architekci, https://cdf.net.pl/pl/focus-project/szpital-degi/ (access: 24.08.2025).

[5] Podgórska-Klawe Z., *Od hospicjum do współczesnego szpitala*, Wydawnictwo Ossolineum, Wrocław 1981.

[6] Poplatek J. (ed.), *Architektura ochrony zdrowia. Teoria i praktyka*, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2018.

[7] Risse G.B., *Human bodies revealed: Hospitals of post-revolutionary Paris* [in:] G.B. Risse, *Mending bodies, saving souls: A history of hospitals*, Oxford Academic Press, New York 1999, pp. 289–338, https://academic.oup.com/book/52643/chapter-abstract/421822815 (access: 24.08.2025).

[8] Tenon J.R., *Mémoires sur les hôpitaux de Paris*, de l'imprimerie de Ph.-D. Pierres 1788.

[12] J. Poplatek (ed.), *Architektura ochrony zdrowia. Teoria i praktyka*, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2018.

[9] Tomanek M., *Technologia medyczna w projektowaniu obiektów szpitalnych*, "Śląsk" Wydawnictwo Naukowe, Katowice 2015.
[10] Ulrich R.S., *View through a window may influence recovery from surgery*, "Science" 1984, no. 4647, pp. 420–421, https://www.science.org/doi/10.1126/science.6143402 (access: 24.08.2025).
[11] Wagenaar C. et al., *Hospitals. A design manual*, Birkhäuser, Basel 2020.

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