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### ACCESS TO EDUCATION IN TERMS OF THE ELIMINATION OF ARCHITECTURAL BARRIERS - ON THE EXAMPLE OF SELECTED POLISH UNIVERSITIES LOCATED IN HISTORIC BUILDINGS

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#### Abstract

Many universities in Poland are based in historic buildings. As public facilities, they must have accessibility for people with disabilities. Therefore, historic buildings undergo regular reconstruction to ensure accessibility on the basis of technical and construction regulations and the Convention on the Rights of Persons with Disabilities. For the purpose of the study, those with exceptional architectural, cultural and historical are presented. The article is concerned with determining the current state of accessibility of selected Polish universities for students with mobility disabilities. The first part of the paper deals with the verification of the background material in the form of statistical data and support programmes for the studied group of users. The second part presents historical information about the historic buildings along with a qualitative analysis of the elements already applied to eliminate architectural barriers. Nine selected historical teaching facilities located both in Warsaw and scattered throughout the country were analysed using the field observation method. The conclusion presents the results indicating the application in the realizations of the principle of rational improvement stating that the preservation of historic value can become paramount to ensuring full accessibility. Still, monuments should be treated individually, and the same applies to disabilities, where each is different and requires individual perception and treatment.

Keywords: historic building; rational improvement; availability; students; people with disabilities

### INTRODUCTION

Poland is a country with a rich history of educational development, which dates back to the beginnings of Christianity. Initially, knowledge was acquired in cathedral, collegiate, monastery and parish facilities, but it was not immediately widely available to all and was mainly aimed at the clergy. Increased accessibility to knowledge for a wider audience came with time from the need for educated counsellors at Polish courts. The founders of the first educational facilities included Casimir the Great, Queen Jadwiga and Władysław Jagiełło [J. Grabowski 1936]. The first Polish university was Cracow Academy. It was founded in 1364 and was the only one to educate students for several centuries, until 1702. It was then that the University of Wroclaw was founded as the second university of the university type within today's Polish borders. In the 19<sup>th</sup> and 20th centuries many universities, academies and polytechnics were founded. Higher education always took place in monumental, multi-construction buildings of high aesthetic quality and architectural value, located in the centres of large cities. These buildings were representative, grand and designed by the most distinguished architects. The structure of these buildings was intended to reflect the status and seriousness of the functions they performed. The architectural form of the university buildings, therefore, was primarily a raised ground floor with a representative entrance with a significant number of stairs leading up to single or double doors of massive proportions. Inside the main hall, parade staircases were located axially, from which corridors gave access to the side wings of the buildings, sometimes implemented on different levels. This way of building did not, in today's terms, facilitate accessibility for all. Despite many upheavals in history, rebuilding after war damage or reconstruction, these buildings still exist and function.

All the currently surveyed buildings have the status of a listed monument. While in the development of new public buildings, including schools or universities, the extent of providing access to the facility for people with disabilities (PWD) is obvious and simpler, in the case of existing buildings, even more so historic buildings, the administrative procedures become more complicated and lengthy, and the implementation costs themselves much higher than in new buildings. This is an observation of the authors related to their own experience of carrying out various developments at historic buildings. Buildings of this type have restrictions imposed on the possibility of interfering with the preserved historic structure. The conservator's office, as an opinion-giving and consenting body, supervises design and implementation activities and actively participates in the construction process. According to the Act on the Protection of Historic Buildings, such buildings should have a chance to exist for decades to come, in an unchanged state. However, historical restrictions should not impede access to the facility and education for people with disabilities. Therefore, it is necessary to balance the extent of possible changes without devastating historic buildings and to make efforts to remove architectural barriers in such a way that accessibility can be improved in a reasonable manner.

Over the last more than two decades, the topic of accessibility of designed objects and spaces has been repeatedly studied and analysed in various aspects. There are many studies on universal design in the form of 'guides' or 'good practices' [E. Kuryłowicz 2005], [K. Kowalski 2018], [M. Brutkowski 2017]. A number of ergonomic considerations for a school building for people with disabilities are also described in a research paper on the impact of architectural barriers on learning opportunities for people with disabilities [P. Kaleta, Z. Żurakowski, 2012].

The above studies are concerned with the use of 'friendly' solutions in new buildings and spaces. In contrast, the aspect of an accessible monument is a relatively new issue. At the end of 2021, the conference 'Monuments for All, Accessibility of Monuments for People with Special Needs' was held. The Conference addressed the limitations and challenges of removing barriers in historic buildings. A review of contemporary

publications indicates a lack of specific solutions in the form of guidelines for the adaptation of historic interiors and buildings. The situation of the space surrounding these buildings is relatively better. Proposals for solutions for conservation areas in the form of specific material decisions for the accessible pavement of walkways are emerging [M. Wysocki 2018, pp. 384-393]. The issue of accessibility to a monument can be linked to the topic of adapting buildings to a new function. Most often, monuments are subjected to reconstruction and renovation, and '[a]daptation of historic buildings must be based on knowledge of history, structural problems and realisation of the consequences of necessary interventions in the historic structure of the object' [Z. Jankowski, M. Jankowski, 2009, p.12]. Thus, ensuring the accessibility of such public buildings as universities must be implemented and the question is not 'if' but 'how' to implement them so that the historical and artistic identity of the building is not destroyed and the building is accessible to PWD.

#### 1. METODS AND MATERIALS

For the purposes of this thesis, a mixed research method was adopted, including historical research and qualitative research. Various research techniques were used for the study. Documentation and information on the analysed historic buildings was collected. Field research was carried out in the form of site visits to the selected buildings, together with photographic documentation. Correlations of the applied technical solutions eliminating architectural barriers were analysed. For the purposes of this publication, in the period 2021-23 several existing historical didactic facilities in Poland were examined in terms of their accessibility for people with disabilities. A relatively small number of people with disabilities benefit from higher education. As indicated by data from the Polish Central Statistical Office and the Office of the Government Plenipotentiary for Disabled Persons, there is a global decline in the number of students in the period studied between 2017 and 2020 (no data available for 2021/22). In the 2017/2018 academic year, the total number of graduates was 6,326, in the period 2018/2019 it dropped to 5,744, while in 2020 the number was merely 5,196. The numerical data of students with disabilities in the period under review also shows a decreasing trend, which was respectively: 2017 - 23,828, 2018 - 22,046, 2019 - 21,240 and in 2020 - 20,248 [Central Statistical Office statistical information 2018-2020]. The proportions of changes in the number of students and graduates at Polish universities are indicated in Figure 1.

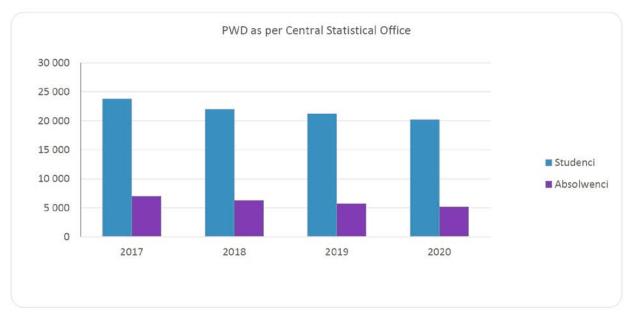


Fig. 1. Number of students and graduates with disabilities at Polish universities; source: Statistics Poland

Analysing the available support programmes, it is possible to identify various forms of assistance for the studied user group. A government programme for universities was established a few years ago to support the elimination of barriers to access to education. Within the framework of the 'Accessible University' programme of the National Centre for Research and Development, funding has been provided in recent years to universities to adapt facilities and eliminate barriers to the needs of PWD. Each university has Offices for Persons with Disabilities to support students in accessing knowledge. In addition, there are tabs on each university's website to provide information on the degree of accessibility of facilities. The research also took into account the results of reports and analysed the 'State of Accessibility of the Public Entity Reports' received from these university units, as well as other descriptions and lists showing the current status in this respect. Access to this information enables prospective candidates to find out about the facilities and obstacles they may encounter when studying at a particular faculty.

Criteria for site selection:

- historic monument (historical value),
- object of representation (aesthetic value),
- teaching object (scientific value).

Site visits led to the identification of nine selected historic buildings which could provide a positive example (although not comprehensive) of measures leading to easier use of buildings by people with physical difficulties. All of them were already renovated and adapted.

It turned out that most of them had solutions that took universal design into account.

The selected facilities were: Faculty of Architecture at Warsaw University of Technology, University of Warsaw – Institute of Polish Culture, Students' Council building, Institute of Philosophy and Auditorium Maximum, Main Building of Gdansk University of Technology, Jagiellonian University in Krakow, Nicolaus Copernicus University in Torun, University of Wroclaw.

Areas covered:

- facility surroundings forms of spatial obstruction.
- car park type and legibility of signage, route to main entrance.
- main entrance legibility, way of overcoming height, way of opening the door,
- side entrance legibility, way of overcoming the height, way of opening the door,
- extent of interference with existing historic fabric.

The range of support for students with special needs is multi-faceted, such as the removal of architectural barriers, i.e. freeing up space from vertical and horizontal barriers. Providing information on the layout of rooms in the building in a visual, tactile and voiceactivated way. Assistance is also provided in terms of grants and the appointment of assistants for people with special needs. It also involves giving access to the facility to people using an assistance dog, providing mobile devices to support education, digitisation and making digital library resources available. Universities also implement quiet, activity or relaxation areas for students. The definition of the scope of minimum requirements to serve accessibility is included in the Accessibility Act 2019. Poland, by ratifying the UN Convention on the Rights of Persons with Disabilities, recognised the right of persons with disabilities to education, while ensuring that such persons have access to universal higher education without discrimination and on an equal basis with others. The Constitution of the Republic of Poland Art. 69-70 guarantees access to education without discrimination, to every individual in society.

### 2. CASE STUDIES

## 2.1. The Faculty of Architecture at Warsaw University of Technology (WAPW)

It is a historic didactic building from 1905 of exceptional architectural, cultural and historical value. Located at 55 Koszykowa Street in Warsaw, it is listed in the register of historical monuments under No. 766A by a decision of March 1969. The building operated in

its early days as the 5th Male Gymnasium of the Tsar, and from 1915 as a teaching institution educating future architects. Detailed historical data is contained in a comprehensive study entitled Time and Place, Architecture of Warsaw University of Technology [Wagner A.A., 2015, pp.328-354]. At the moment, the building is equipped with an internal passenger lift, installed in 2019 (Fig. 2). The internal lift is located in such a position as to allow a communication link between all floors of the building. The lift in the entrance hall was installed in 2023, making the main entrance to the WAPW building accessible to all. The location of the elevator does not disturb the historic interior layout and does not impede evacuation from the building. The authors of the project to adapt the main entrance for people with disabilities were Michał Brutkowski and Małgorzata Nowak-Pieńkowska.

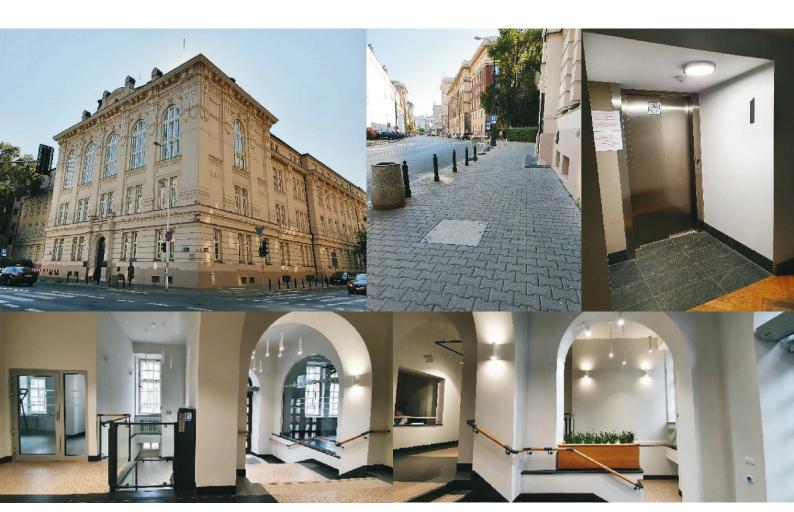


Fig. 2. Faculty of Architecture, Warsaw University of Technology, main entrance, interior lifts; source: photo by the authors

### 2.2. University of Warsaw – Institute of Philosophy (UWIF)

A building erected as a tenement house with an annexe in 1867-68 and reconstructed in 1948-49, located at 3 Krakowskie Przedmieście Street in Warsaw. In the 19<sup>th</sup> century, the building functioned as a seven-class Third Male Gymnasium. The building is listed in the register of historical monuments under no. 208 from July 1965. The project to locate a lift in the spirit of the existing staircase was realised as part of the 2011 accessibility of the building for PWD. Incorporating the glass lift into the open space of the staircase required slight interference to the existing balustrade and its base. The project did not require interferen-

ce with the historic walls of the building (Fig. 3). An external ramp for wheelchair users had also been realised a few years earlier. The alignment running to the ground floor was equipped with a stair platform. This type of solution is used less and less due to the limitation in the width of the evacuation from the building; moreover, it is visually unfavourable. About five years ago, a vertical lift was installed on the first floor. This provides access to the wing with the lecture theatre and library. The building is largely adapted, but locally there are level differences that are insurmountable for people with dysfunction or reduced mobility. This is evident, also from the 2019 UW Building Accessibility Summary.



Fig. 3. University of Warsaw, Institute of Philosophy – ramp for persons with disabilities, interior lift; source: photo by the authors

### 2.3. University of Warsaw – Institute of Polish Culture, Students' Council building

The buildings were originally part of the Villa Regia foundation from 1699, and from 1707 the building operated as the St. Roch Hospital. It was rebuilt several more times with a change of function and rebuilt after the war damage in 1947-49. The building has a spatial layout closed in a quarter with two functions: Student Council located in the front wing facing Krakowskie Przedmieście Street, and the Institute of Polish Culture (IKP) accessible from the interior of the campus. The realisation of the adaptation investment (IKP) was connected with a general overhaul and reconstruction that took place in 2004. Access to the

internal lift is via an external ramp integrated into the pavement, located on the side of the inner university complex (Fig. 4). The three-storey Students' Council building located at 24 Krakowskie Przedmieście Street was entered in the register of monuments under No. 242 of 1.07.1965 and No. 1244 of 27.07.1984. The building in the front wing is equipped with a lift located in the spirit of the staircase (Fig. 5). Due to the small area of the staircase, the lift is narrow and does not meet current accessibility standards. However, its location does not alter the overall character of the building and, importantly, did not require significant building interventions. A toilet for PWD has been provided on the ground floor. Currently, access to the building

for people with mobility impairments is only possible through a gated crossing. Access from the main gate of the campus is not possible due to the restriction of 3 steps in the arcade that leads to the main door of the Local Authority. Design work is currently underway to overcome this problem.



Fig. 4. University of Warsaw, Institute of Polish Culture - interior lift; source: photo by the authors



Fig. 5. University of Warsaw, Students' Council - interior lift; source: photo by the authors

# 2.4. Auditorium Maximum from the architectural and spatial complex of the University of Warsaw

The building was erected at 26/28 Krakow-skie Przedmieście Street, in the years 1936-1937, and rebuilt in the period 1951-55. During the Nazi occupation the building was used as a stable and arms depot. The new Auditorium was erected after the Second World War and was entered in the Register of Historic Buildings on 27.07.1984, under No. 1244, as was the entire UW campus. The project to adapt the building included the implementation of a glass lift connecting the basement with the ground floor (Fig. 6). The installation of the lift in the long entrance hall required interference into the existing ceiling between

the ground and basement floors. The lift has a voice system to indicate its position and a button to provide a call to the gatehouse. Floors 2 and 3 are inaccessible for people with mobility impairments. Toilets for people with disabilities are located on level -1 and on the ground floor. An accessible and signposted entrance from the greenhouse is located to the left of the main entrance, an additional entrance with ramp is located at the rear of the building. Detailed historical data about the facilities are included in the series of publications entitled *The History of the University of Warsaw* [T. Kizwalter, P. Majewski, 2016]. The author of the selected adaptation projects in the University of Warsaw facilities is Archigraf studio, Michał Brutkowski and his team.



Fig. 6. University of Warsaw, Auditorium Maximum – interior lift; source: photo by the authors

### 2.5. Gdansk University of Technology – Main Building

The building was designed in the historicist style referring to Northern Mannerism. It was built between 1900 and 1904, and entered in the register of monuments on 27.07.1984 under the number 1244. The body of the building is rectangular in shape with two internal, covered courtyards. The building is located at the end of Gabriela Narutowicza Street, which emphasises the axiality of the urban layout. More information about the building can be found in the album *Kampus Politechniki Gdańskiej [Campus of Gdańsk University of Technology* [J. Szczepański, K. Krzempek 2017]. The 2017 construction of the lift removed barriers to access to the

upper floors of the building. There are three entrances to the building, from Narutowicza Street, with the main representative one housing an extensive staircase that makes the entrance inaccessible to PWD (Fig. 7). A barrier-free entrance with a door that opens with a photocell is located to the right of the main entrance. Toilets accessible to PWD are located on each floor to the right of the main entrance. The University of Technology participates in the Accessibility Plus Programme. The university has joined the partnership project 'Accessible School – innovative solutions in creating a friendly educational space taking into account the needs of students and the environment' and the Operational Programme Knowledge Education Development 2014-2020.



Fig. 7. Gdańsk University of Technology, main entrance - interior lift; source: photo by the authors

### 2.6. Jagiellonian University - Collegium Novum in Krakow

The Collegium was founded in the 14<sup>th</sup> century by Casimir the Great. Later on Queen Jadwiga and Władysław Jagiełło renovated the facility, which became the Jagiellonian University. The current Collegium Novum was built on the site of 15<sup>th</sup>-century dormitories, which were destroyed by fire in the 19<sup>th</sup> century. It is a neo-Gothic teaching and administrative building designed by Feliks Księżarski, which was opened in June 1887. The building was entered into the register of monuments under no. A-315 28/07/1966 Detailed historical data can be found in the publication entitled *Collegium Novum* [M. Bogdanowska, A. Chwalba, 2014].

The building with two internal courtyards is located at the corner of Gołębia and Jagiellońska Streets. Access to the facility is through one of several entrances to the building. On the northern façade, the entrance is equipped with an intercom and leads directly to the inner courtyard to the external elevator installed at the courtyard façade (Fig. 8). The lift connects all floors and allows access to the rooms. The facility has two toilets for people with disabilities located on levels +1 and +2. People using an assistance dog are allowed access. However, there is a noticeable lack of a marked parking space for people with disabilities directly at the entrance with the elevator, and the condition of the road surface makes it very difficult to move around.



Fig. 8. Jagiellonian University Collegium Novum - main entrance, external lift located in the courtyard; source: photo by the authors

### 2.7. Nicolaus Copernicus University in TorunCollegium Maius in Torun

The Collegium Maius was built between 1906 and 1907 in neo-Gothic style in Fosa Staromiejska Street. It was entered in the register of historical monuments on 3.06.2005 under no. 509. The building was erected in red brick in the shape resembling the letter 'F', with the main entrance located on the axis of the body on the side of the internal square. The internal layout of the building is 1.5 tracts with cross vaults. During the First World War the building served as a lazarette, and in the interwar period it housed the Pomeranian Provincial Office. During the Second World War the German SS police forces were stationed here and a prison was located; the unit was destroyed in

November 1945. After reconstruction, it was taken over by the Collegium Maius. Between 1906 and 1920, it housed the Industrial School. More information about the history of the building can be found in *History of the building of the Collegium Maius of Nicolaus Copernicus University in Torun* [B. M. Gawęcka, 2011]. Accessibility for people with disabilities is provided in terms of parking on the side of Fosa Staromiejska. Unfortunately, the main entrance to the building is not accessible to people with disabilities. An internal lift has been constructed in the building to the right of the main entrance (Fig. 9). In the historic pavement (cobblestones), largeformat slabs have been placed to facilitate mobility by levelling out unevenness, which is a positive example of universal design.



Fig 9. Nicolaus Copernicus University, Collegium Maius, main entrance - interior lift; source: photo by the authors

### 2.8. University of Wroclaw

The building was erected in the 18th century in the Baroque style and was rebuilt several times. After the destruction caused by World War II, it was rebuilt between 1949 and 1958. The building towers over the bank of the Oder River dividing the city. The glass exterior lift is located on the side of the courtyard, where the car park is located from Aleksander Hr. Fredry Street. The building has two entries in the register of historical monuments under No. 35 of 29.03.1949 and No. 163 of 15.02.1962. Historical details can be found in the publication entitled *Z dziejów Uniwersytetu Wrocławskiego The History of the University of Wrocław* [A. Grodzki, 2009]. The new passageway has

become a link between modernity and history, allowing access to all floors of the building, except the Mathematical Tower. The external lift, together with a spiral ramp, was located between the eastern wing of the university building and the Roman Catholic Church of the Holy Name of Jesus (Fig. 10). The entrance to the building from the Stone Hall side is ensured by means of an automatic opening door, accessible to people with disabilities thanks to an installed lift. Access from the Imperial Entrance is limited. The toilet accessible for PWD is located at the Imperial Entrance. However, the shape of the used ramp is not the best solution; moreover, the handrails are inaccessible to people with disabilities.



Fig. 10. University of Wroclaw – exterior lift; source: photo by the authors

#### 3. RESULTS

The listed buildings under review are characterised by impressive architecture. The ground floors of the buildings are elevated above the ground level. There is often a need to climb several flights of stairs from the ground floor. Historic and decorative front façades may preclude the location of lifts on the exterior of buildings attached to the facade. However, there are external lift shafts located in the central axes of lateral, less decorative facades, using, for example, existing window openings for future vertical transportation stops. These solutions are the right thing to do. as they can represent a certain compromise between preserving the historic, existing state and providing accessibility. Such a solution was applied in the cases of Wroclaw and Krakow universities. The analysis of the indicated buildings has shown that the implementation of passenger lifts provides the best connection of most floors. Such solutions are also the best in terms of comfort and ease of use. It is more common to realise passenger lifts connecting all the storeys than external ramps that are large and disharmonising with the surroundings. Lift shafts most often made with modern technology do not falsify history, as it is obvious at first glance that they are new architectural elements. Often, if spatial conditions permit, internal lifts are realised in the spirit of stairwells, for example. However, given the varied shape of the floor plans of the selected buildings, the locations of the lifts are diverse. Some universities with building plans in a simple single-wing form have lifts in halls at the main entrances or on less prominent elevations, as in the Wroclaw case. On the other hand, buildings with a complex spatial form have more frequently implemented lifts in internal courtyards. Nevertheless, such solutions cannot be regarded as typical or universal. Each building is different and should be considered individually. The main finding is that, in almost every case, the main representative entrance is not fully accessible to people with disabilities in an independent manner. Entrances for PWD are usually implemented at side entrances. Architectural accessibility in the elimination of vertical barriers is realised in all the surveyed facilities but not fully. In the case of facilities with a more complex form and differences in levels between building wings, it happens that not all rooms are accessible. Unfortunately, some lifts were built almost 20 years ago, which means that they no longer meet the current requirements in terms of, among other things, dimensions and technology (buttons, voice information, equipment, etc.). This applies to the dimensions of the cabs, lack of voice information, lack of Braille descriptions, illumination or highlighting of the control panel in the lift. Often, in the surveyed facilities, there are several assistive technical elements, apart from the lift stair lifts are used, which is currently not the best solution. They restrict evacuation from the building, visually disrupt the interiors and their form is often aesthetically unappealing. It should not be forgotten that in historical buildings there are massive entrance doors which often do not have servo-operators to assist their opening. Another complication is that both external and internal doors appear as double-leaf doors with a passage width in one leaf less than the required min. 90 cm. In this case, both leaves must be opened in order for a wheelchair user to access the room in question. Unfortunately, this activity requires the help of others and makes the user with a disability dependent on others, far from being independent. A noticeable problem is also the space around the buildings in question, which has spatial impediments in terms of kerbs or thresholds that make it difficult to reach the buildings. There are deficiencies in the vertical as well as and horizontal signage of the space. The buildings were assessed keeping in mind the whole path taken by a person with special needs, together with the access from the public space or parking spaces to the premises, which are their final destination.

There is a noticeable positive trend towards adapting the immediate area of monuments, where there is historic paving in the form of irregular stone cobbles or field pebbles. Although such paving is a beautiful testimony to history, it poses a huge challenge in getting around. This is not just referring to people with mobility impairments, but also parents with children in prams or cyclists. In several examples studied, rectangular concrete or stone slabs were incorporated into the existing paving to provide a safer route. Universal design was also manifested in these facilities by the creation of adeguate parking spaces and adapted toilets. Sometimes, despite the adaptation of the side entrance and the good design of the parking spaces, the route was so complicated and inconvenient that it restricted access to the facility.

The needs of the public currently overtake technical solutions. On the other hand, the increasing dialogue between users and institutions represents positive developments in providing accessibility to facilities especially with regard to historic buildings, whose preservation in an almost unchanged form is as important as it is for everyone to be able to use this historic space regardless of the accompanying limitations. The areas were surveyed according to the principles of reasonable improvement (Tab.1):

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A - facility surroundings,

B - car park,

C - main entrance,

D – side entrance,

E – extent of interference,

F - lift / ramp / lift

Tab. 1. Summary of research results

No.	Facility	A	В	C	D	Е	F
1	Warsaw University of Technology – Faculty of Architecture						
2	University of Warsaw – Institute of Philosophy						
3	University of Warsaw – Institute of Polish Culture			0			
4	University of Warsaw – Students' Council building	• •		• •			
5	University of Warsaw – Auditorium Maximum						
6	Gdansk University of Technology – Main Building						
7	Jagiellonian University – Collegium Novum in Krakow	• •	0				
8	Nicolaus Copernicus University – Collegium Maius in Torun	• •	0		• •		
9	University of Wroclaw						

Legend: proper solution caceptable solution no accessibility to the main entrance Dual category designations mean that the assumption was met, but locally there were some difficulties. Source: by the authors.

#### DISCUSSION

After the analysis, it can be concluded that it is much easier and cheaper to apply barrier-friendly design solutions in a newly designed building. The situation is different in existing buildings, where lifts, ramps and hoists are incorporated. A possible and least visible form of accessibility incorporates offset floor platforms. The condition for their use is a limited lifting height of 75 cm. The advantage of this technical element is that they are hidden in the floors and only extend when required. They can be used both indoor and outdoor. They can certainly provide a convertible and invisible form of accessibility. It is difficult to propose standard solutions, as they do not exist, just as every facility and need is individual and unique. At the moment, none of the universities under analysis fully meets all accessibility objectives, it is a long and arduous and - above all - costly process. However, as far as possible, universities are improving this condition and are continuously retrofitting facilities with the infrastructure needed by persons with disabilities. However, upgrades to buildings on the historic register should, nevertheless, be carried out on the assumption that the accessibility aspect may become secondary, in relation to the historical and cultural values of the building. In such situations, consideration is given to implementing the infrastructure in a way that is invisible, far from being eye-catching, aggressive or dominant. In addition, the question must be asked how far one can go with transformations of historic buildings for the sake of ideal accessibility. There is no clear answer to this question, because there are no ideal solutions. Rather, when realising the idea of adapting a historic building for PWD, one has to think about a certain compromise between history and contemporary needs. Another aspect that needs more analysis is the decreasing number of students and graduates with disabilities in the improving accessibility situation of higher education institutions.

Analysing the available statistical data and the current situation in Ukraine after 24th February 2022, an increase in the number of Ukrainian students at universities was observed. The Ministry of Education and Science reported that 5,699 Ukrainian citizens applied for admission to study in Polish universities (as of 27th April 2022). Due to the ongoing war in Ukraine and the increasing number of physically injured people, as well as people with disabilities, some of them may express a desire to participate in higher education in Poland. Therefore, the need to provide them with dignity in our country takes on new importance and a there is a growing desire to eliminate various barriers. This aspect requires the development of broader and more detailed research not only in the sphere of elimination of architectural barriers, but also the need to ensure psychological comfort and safety in Polish educational institutions.

#### LITERATURE

- Bogdanowska M., Chwalba A. (2014), Collegium Novum, Księgarnia Akademicka, Kraków.
- Brutkowski M. et al. (2017), Standardy dostępności dla osób z niepełnosprawnościami, Poradnik Ministerstwa Infrastruktury i Budownictwa, Warszawa.
- 3. Gawęcka B. M. (2011), Dzieje budynku Collegium Maius Uniwersytetu Mikołaja Kopernika w Toruniu, 'Zabytkoznawstwo i Konserwatorstwo,' Vol. XLI.
- Grabowski J. (1936), Dzieje oświaty w Polsce No. 9, Druk Braci Albertynów, Warszawa.
- Grodzki A. (2009), Z dziejów Uniwersytetu Wrocławskiego, Polska Akademia Umiejętności, Wrocław.
- Jankowski Z., Jankowski M. (2009), Problemy projektowe związane z adaptacją budynków zabytkowych na cele użyteczności publicznej, 'Czasopismo Techniczne,' Wydawnictwo Politechniki Krakowskiei.
- 7. Kaleta P., Żurakowski Z. (2012), Wpływ barier architektonicznych na możliwość kształcenia się osób niepełnosprawnych ruchowo w Zabrzu, 'Zeszyty Naukowe Politechniki Śląskiej,' Series: Organizacja i zarządzanie, Iss. 63a, No. 1891.
- 8. Kizwalter T., Majewski P. (2016), Dzieje Uniwersytetu Warszawskiego, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa.
- Kowalski K. (2018), Włącznik. Projektowanie bez barier, Wydawnictwo Fundacja Integracja, Warszawa
- 10. Kuryłowicz E., Johnni P., Thureson C. (2005), Projektowanie uniwersalne: uwarunkowania architektoniczne kształtowania otoczenia wybudowanego przyjaznego dla osób niepełnosprawnych. Sztokholmmiastodlawszystkich: wytyczne tworzenia dostępnego i funkcjonalnego otoczenia zewnętrznego, Stowarzyszenie Przyjaciół Integracji, Warszawa.
- **11.** Szczepański J., Krzempek K. (2017), Kampus Politechniki Gdańskiej, Wydawnictwo Politechniki Gdańskiej, Gdańsk.
- **12. Wagner A.A. (2015)**, *Czas i Miejsce, Architektura Politechniki Warszawskiej*, OWPW, Warszawa.
- **13. Wysocki M. (2018)**, *Projektowanie uniwersalne w praktyce procesów rewitalizacji*, Studia Komitetu Przestrzennego Zagospodarowania Kraju PAN.

### **INTERNET SOURCES**

 Główny Urząd Statystyczny, https://stat.gov. pl/obszary-tematyczne/edukacja/edukacja/ szkolnictwo-wyzsze-i-jego-finanse-w-2020roku,2,17.html (Access: 05.10.2022).

- Główny Urząd Statystyczny, https://stat.gov.pl/ obszary-tematyczne/edukacja/edukacja/szkolywyzsze-i-ich-finanse-w-2018-roku,2,15.html (Access: 05.10.2022).
- Polski związek niewidomych, program 'Aktywny Absolwent,' https://pzn.org.pl/projekt-aktywnyabsolwent/ (Access: 08.09.2022)
- Narodowe Centrum Badań i Rozwoju, 'Uczelnia Dostępna III,' https://www.gov.pl/web/ncbr/uczelniadostepna-iii (Access: 08.06.2022).
- 5. Rzecznik Praw Obywatelskich, Osoby głuche w Polsce 2020, https://bip.brpo.gov.pl/pl/content/osoby-gluche-w-polsce-2020-wyzwania-i-rekomendacje (Access: 16.09.2022).
- Uniwersytet Warszawski, accessibility declaration, https://www.uw.edu.pl/deklaracia-dostepnosci/
- Politechnika Gdańska, accessibility declaration, https://pg.edu.pl/deklaracja-dostepnosci
- 8. Politechnika Gdańska, forms of aid, https://pg.edu.pl/search/global?keys=pomoc+dla+niepe%C5%82 nosprawnych#gsc.tab=0&gsc.q=pomoc%20dla%20 niepe%C5%82nosprawnych (Access: 05.09.2022).
- Uniwersytet Jagielloński w Krakowie, accessibility declaration, https://dadn.uj.edu.pl/obiekty/collegium
- Uniwersytet Mikołaja Kopernika w Toruniu, accessibility declaration, https://www.umk.pl/deklaracjadostepnosci/wh/ (Access: 05.09.2022).

### **LEGAL ACTS**

- Announcement by the Minister of Development and Technology of 15 April, 2022 on the announcement of the unified text of the Regulation of the Minister of Infrastructure on the technical conditions to be met by buildings and their location (Dz.U. 2022, item 1225).
- Act of 19 July 2019 on ensuring accessibility for persons with special needs (Dz. U. 2019, item 1696).
- Convention on the Rights of Persons with Disabilities, concluded in New York on 13 December 2006 (Dz.U. 2012, item 1169).
- 4. Announcement of the Speaker of the Sejm of the Republic of Poland of 23 March 2022 on the announcement of the uniform text of the Act on the protection and maintenance of historic monuments (Dz.U. 2022, item 840).
- 5. Constitution of the Republic of Poland, Art. 69-70 (Dz.U. 1997, no. 78, item 483).
- 6. Tabular summary ZOGG.2250.44.2020.KK on accessibility of the University of Wroclaw, Source: Team for the Service of Students and Doctoral Students with Disabilities at the University of Wroclaw.