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Heritage Architecture Valuation: Sketch Analysis

Abstract

Heritage architecture valuation is a complex process that requires a balance between quantitative assessments and qualitative interpretations. This study explores sketch analysis as a methodological tool for assessing and preserving the cultural and architectural value of heritage structures. The research investigates whether hand-drawn sketches can serve as complementary tool to traditional heritage valuation methods, offering unique insights into architectural identity, spatial relationships, and material authenticity.

The study employs on-site sketching and comparative analysis of heritage buildings, using a structured framework to document architectural features, materiality, and spatial proportions. A series of systematic sketches were produced for selected heritage structures, followed by an evaluation process that analysed their effectiveness in capturing historical, aesthetic, and structural attributes. The results were carefully considered to assess the strengths and limitations of sketch-based valuation.

Findings indicate that sketch analysis enhances perceptual engagement, allowing for a deeper, more human-centred understanding of architectural elements that might be overlooked in digitally based assessments. The interpretative nature of sketching enables a more nuanced appreciation of craftsmanship, structural deterioration, and spatial hierarchy. Additionally, sketches serve as a cognitive mapping tool, reinforcing the connection between the observer and the built environment. However, the study highlights challenges, including subjectivity and the need for expert training to ensure accuracy in heritage valuation.

The research underscores the relevance of sketching as a heritage valuation method, demonstrating its potential to complement existing conservation practices. While digital technologies remain crucial for precision and documentation *en masse*, manual sketches foster an immersive analytical process that enhances architectural interpretation. The study advocates for a hybrid approach, integrating traditional and contemporary methods to achieve a more holistic understanding of cultural heritage.

Keywords: perception of architecture, heritage preservation theory, hand drawing, heritage assessment, adaptive reuse

1. Introduction and research aim

In the often long-lasting 'biography' of architectural monuments reconstructions, extensions, interior transformations, changes in decor and architectural detail were as well as they are natural processes – because of changing functional and technological standards, needs, user tastes or, finally, architectural fashion.[1] The pace of civilisation changes, technological advances and utilitarian needs is rapidly increasing affecting various aspects of the functioning of the natural and anthropogenic environment.[2] Not only strong, but also multidimensional links between architecture and civilisation[3] are accompanied by a drive to adapt historic buildings to new functions. In the European countries of the former *Eastern Bloc*, these aspirations were multiplied by the regime changes after the fall of the Berlin Wall. Negligence in the renovation of historic buildings in Poland after World War II and the associated need for modernisation investments prompted conservation circles to intensify research on the permissible adaptation/modernisation of historic structures determined by the preservation of their historic value. Studies have dealt with methods of adaptation[4] and the importance of monument analysis in adaptation-modernisation processes.[5] The diversity of the historical objects' characteristics

[1] S. Brand, *How Buildings Learn. What Happens After They're Built*, New York 1995; M. Hełdak, E. Gonda-Soroczynska, *Historical Heritage and Space Transformation*, "IOP Conference Series Materials Science and Engineering", 2019, vol. 471, issue 11.

[2] B. Bowden, *Civilization and Its Consequences*, "Oxford Handbook Topics in Politics", 2016; I. Szmelter, *Values assessment in cultural heritage protection on the timeline*, in: *Heritage Value Assessment Systems – The Problems and the Current State of Research*, ed. B. Szmygin, Lublin–Warszawa 2015, pp. 24–26.

[3] M. Mihaila, *City Architecture as Cultural Ingredient*, "Procedia – Social and Behavioral Sciences", 2014, vol. 149, pp. 565–569; W.F. Youssef, *Architecture and Civilization*, [n.p.] 2015, https://www.researchgate.net/publication/275971843_Architecture_and_Civilization (accessed 22.02.2025); N.I. Terzoglou, *Architectural Creation between Culture and Civilization*, in: *The Cultural Role of Architecture. Contemporary and Historical Perspectives*, ed. P. Emmons, J. Lomholt, J. Shannon Hendrix, London–New York 2020; B. Selfslagh, *Quo vadis high-quality Baukultur? An insiders view*, "Monumenta", 2022, vol. 5, pp. 115, https://journals.ub.uni-heidelberg.de/index.php/monumenta/article/view/103490 (accessed 22.02.2025).

[4] F. Scott, *On Altering Architecture*, London 2008; B.J. Rouba, *Dlaczego adaptacje niszczą zabytki i czy tak musi być?* [Why do renovations damage historic buildings, and is this inevitable?], in: *Adaptacja obiektów zabytkowych do współczesnych funkcji użytkowych* [Adapting historic buildings for current functional uses], ed. B. Szmygin, Warszawa–Lublin 2009, pp. 113–128; M. Włodarczyk, *Współczesna myśl architektoniczna w adaptacji obiektu zabytkowego, czyli charakterystyka optymalnej ingerencji dla potrzeb nowej funkcji* [Contemporary architectural thinking on the adaptation of a historic building: characteristics of optimal intervention to meet the requirements of a new function], in: *Adaptacja obiektów zabytkowych do współczesnych funkcji użytkowych*, op. cit., pp. 203–208; M. Brykowska, *Zakres i metody adaptacji zabytków z zachowaniem ich wartości* [The scope and methods of adapting historic buildings whilst preserving their heritage value], in: *Ochrona wartości w procesie adaptacji zabytków* [Preserving heritage values in the process of adapting historic buildings], ed. B. Szmygin, Warszawa 2015, pp. 53–64.

[5] J. Lewicki, *Wartościowanie zabytków w Polsce. Przegląd doświadczeń i postulaty na przyszłość* [The valuation of historic monuments in Poland. An overview of experiences and proposals for the future], in: *Wartościowanie zabytków architektury* [The valuation of architectural monuments], ed. B. Szmygin, Warszawa 2013, pp. 157–172.

of their own has also guided the research of this field in particular categories of monuments: modernist architecture,[6] post-industrial heritage,[7] sacral architecture.[8]

A key problem in the optimisation and objectivization of adaptive reuse works is the assessment of the value of heritage buildings enabling for putting up a hierarchy of values and thus differentiating the scope of transformations. Studies in systemic approaches have addressed typology, valuation methodology,[9] valuation methods and criteria,[10] multi-criteria analyses[11] and conservation research.[12]

The identification of values depends on the reliability of the sources of information, and the reliability depends on the authenticity of the object that conveys the information. As stated in the Nara Document on Authenticity: 'Conservation of cultural heritage [...] is rooted in the values attributed to the heritage. Our ability to understand these values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original

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[6] J. Lewicki, *Problematyka adaptacji architektury modernistycznej do współczesnych potrzeb użytkowych* [The issue of adapting modernist architecture to contemporary functional requirements], in: *Adaptacja obiektów zabytkowych do współczesnych funkcji użytkowych*, op. cit., pp. 69–83.

[7] W. Szygendowski, B.M. Walczak, *Adaptacje zespołów zabytkowych we współczesnych realiach społeczno-gospodarczych na przykładzie dziedzictwa poprzemysłowego Łodzi* [The adaptation of historic sites to contemporary socio-economic realities, as illustrated by Łódź's post-industrial heritage], in: *Adaptacja obiektów zabytkowych do współczesnych funkcji użytkowych*, op. cit., pp. 137–158.

[8] M. Doroz-Turek, *Ochrona wartości w procesie adaptacji obiektów zabytkowych. Wartość SA-CRUM w wybranych adaptacjach zdesakralizowanych kościołów i założeń klasztornych* [Preserving value in the process of adapting historic buildings. The SA-CRUM value in selected adaptations of deconsecrated churches and monastic complexes], in: *Ochrona wartości w procesie adaptacji zabytków*, op. cit., pp. 85–104; E. Łużyniecka, *Ocena wartości zabytkowych w adaptacjach architektury sakralnej* [Assessing the value of historic features in the adaptation of religious architecture], in: *Ochrona wartości w procesie adaptacji zabytków*, op. cit., pp. 171–182.

[9] W.J. Affelt, *O wartościach architektury przemysłowej (i nie tylko)* [On the value of industrial architecture (and more)], in: *Wartościowanie zabytków architektury*, op. cit., pp. 17–36; M.E. Brykowska, *Nośniki wartości w architekturze zabytkowej* [Elements of Value in Historic Architecture], in: *Wartościowanie zabytków architektury*, op. cit., pp. 51–60; G. Bukal, *Ochrona i zagrożenia wartości zabytków – czyli o skutkach braku wartościowania i co dalej* [The protection and threats to the value of historic monuments – or the consequences of failing to assess their value, and what lies ahead], in: *Wartościowanie zabytków architektury*, op. cit., pp. 61–70; M. Gawlicki, *Ocena wartości zasobu zabytkowego – cele, metody, praktyka* [Assessment of the value of heritage assets – objectives, methods, practice], in: *Wartościowanie zabytków architektury*, op. cit., pp. 99–104; M. Korpała, *Badania konserwatorskie jako podstawa waloryzacji zabytków architektury* [Conservation Studies as the Basis for the Appreciation of Architectural Monuments], in: *Wartościowanie zabytków architektury*, op. cit., pp. 117–124; B. Szmygin, *Propozycje założeń do systemu wartościowania zabytków architektury – podmiot, przedmiot, status wartości* [Proposals for the framework of a system for the valuation of architectural monuments – subject, object, status of value], in: *Wartościowanie zabytków architektury*, op. cit., pp. 187–196; D. Folga-Januszewska, *Typology, methodology and valuation in heritage protection and museology*, in: *Heritage Value Assessment Systems – The Problems and the Current State of Research*, op. cit., pp. 61–82; B. Szmygin, *Analiza składowych wartości zabytkowego zespołu miejskiego – podstawa programów i planów konserwatorskich* [Analysis of the constituent elements of a historic urban complex – the basis for conservation programmes and plans], „Ochrona Dziedzictwa Kulturowego", 2021, no. 11.

[10] J. Krawczyk, *Kryteria i metody wartościowania zabytków architektury* [Criteria and methods for the evaluation of architectural monuments], in: *Wartościowanie zabytków architektury*, op. cit., pp. 139–146.

[11] M. Skłodowski, *Examples of multi-criteria analysis in estimating the value and preservation of cultural heritage*, in: *Heritage Value Assessment Systems – The Problems and the Current State of Research*, op. cit., pp. 209–240; I. Szmelter, *Społeczna strategia wielokryterialnego wartościowania w ochronie dziedzictwa kultury* [A community-based strategy for multi-criteria assessment in the conservation of cultural heritage], in: *Ochrona wartości w procesie adaptacji zabytków*, op. cit., pp. 265–276.

[12] M. Korpała, op. cit.

and subsequent characteristics of the cultural heritage, and their meaning, is a requisite basis for assessing all aspects of authenticity.'[13]

The analysis of the content of a document such as a monument, the identification of its material, formal carriers and the assessment of its significance is being carried out by conservation and architectural research, enriched in recent decades by digital tools that improve research processes through data digitisation, analysis of building material structures and processing of information for design purposes.[14]

One of the aims of the research project carried out by the author's team was to identify the possibilities of extending the analytical research toolbox in the valuation of heritage buildings by drawing and painting techniques.

The use of these techniques, based on the selective processing of visual information perceived by the observer, has not yet been the subject of extended research.

In the research carried out, we have adopted the thesis that one of the key factors integrating the historical-conservationist study of heritage buildings with the architectural design process is the hand-drawing used as a tool for identifying the attributes of heritage values. Drawing, being a direct result of the observer/conservationist/architect's perception of the object points directly, in conjunction with historical knowledge, to the carriers of attributes,[15] protection of which is integral to the design process. The results of the application of the analytical drawing method should provide a clear answer to questions preoccupying its authors.

The most important of these seems to be the question of the degree of subjectivity of the drawing record. **To what extent is this type of recording, using a technique burdened by the individual, perceptual characteristics of the author of the recording, useful, or can it be used at all in research of a scientific nature?** Why draw, when we have at our disposal excellent laser scanning techniques, precise recording of every surface, and modern GPRs allow us to penetrate deep into the building structures of the surveyed objects. However, it seems that despite the precision and formidable scale of the datasets generated by digital methods, they are subject to errors due, among other things, to their scale. There are studies indicating that the extensive use of digital techniques in many fields amplifies errors and often even delays the progress of work [31],[16] as the factor of manual checking and valuation of data is excluded. **So, is hand drawing not outdated? How to draw, why and who should decide on the drawing technique adopted for the study of a given object, is the indication of a single graphic technique justified?** These and other questions that arise in relation to the drawing method in structural valuation are justified if we look at drawing as a way of recording an image perceived by the sense of sight. In the method in question, it is important to distinguish between types of drawing.

Drawing is treated as a record of the impact of the objects studied, rather than a record of their appearance alone. The form and scope of drawings created according to this method is in the field of visual perception. The drawings can be fully realistic as well as being made as a

[13] Nara Document on Authenticity was drafted by the 45 participants at the Nara Conference on Authenticity in Relation to the World Heritage Convention, Nara, UNESCO, ICCROM, ICOMOS, Japan, 1–6 Nov. 1994.
[14] Methods for the systemic use of digital tools require further implementation work.
[15] Attributes as elements of an object that are necessary for its integrity (in visual perception).
[16] N.N. Taleb, *Antifragile: Things that gain from disorder*, New York 2014.

synthesis on the verge of abstraction. The impact of the object can be so strong that it results in a composition with proportions altered from the original. Hence, research drawing acquires the character of a comprehensive study.

An *in-situ* survey drawing allows the recording of particular features of architectural objects. First are the proportions of the object – the ratio of width to height to depth. The second feature is the shape, recorded in silhouette. The third is the relationship of the object to its surroundings, the inscription of the object in its context. Through the drawing record we recognise the architectural style. With less certainty, we can recognise the internal, geometric-functional structure that defines the spatial arrangement of the object. We can recognise the materials from which the object was created, so also the rational side of its design.

The main objective of conducting hand drawing studies as described in this article is to define the scope of possibilities for the architectural researcher to identify zones of possible interference with existing objects without violating their values worthy of protection. This is possible because of the identification of the interaction of the object's value attributes, recorded in the material carriers – the elements of the building. This interaction occurs in visual perception, when, as a result of observation, we perceive the object, its individual components and draw conclusions about the object's attributes.[17]

A freehand drawing from nature can be repeated many times in a brief period. Observation from nature allows rapid note taking of increasingly synthetic, abbreviated notes recording the view in a minimised form based on the perceived, main value carriers of the object under study. Moreover, a series of sketches, each successive of which will be an increasing simplification of the previous one, or an attempt to simplify it differently, may be made in situ. Does a series of research drawings subject to a synthesising sequence – modifying the cognitive effects of the drawing – allow us to define the most important attributes of the object's value? Hand-drawings from nature produced in a sequence of successive sketches from different viewpoints are a source of a series of complementary information. By acquiring such information, can an architect, based on a sketch or series of sketches, define the possibility and the scope of building interventions in the object under study?

All the sketches presented in the research results were created from nature during the authors in situ research. Sample records have been selected to illustrate the questions posed for different cases. The examples present both historical architecture with recognised values and 20th century architecture representing the style of bygone years and awaiting recognition of its value.

2. Materials and methods

2.1. Theoretical framework for the study

For designers of modernisation and adaptive reuse of heritage buildings, the authenticity and integrity of the elements of the architectural and construction structure of the building is of key importance: materials, structural elements, details, forms, compositional parameters, the

[17] Such as proportions, relationship to surroundings, shape, architectural style, to a limited extent the structure and material of the building.

functional-spatial layout documenting historical functions, the site, urban design elements, and other elements or parameters appropriate to the specific nature of the monument.

Assessments of authenticity and integrity are intricately linked to a comparative analysis of the historic and contemporary structure of an object and the identification of elements that have the potential to document historical messages and should be subjected to conservation valuation.

Their values, location and spatial relationships provide justification for design decisions regarding additions (restoration) to the historic structure in places where there are losses in the scale of the architectural detail or unpreserved and decomposed volume elements of the architectural complex.

The valuation of historical buildings is the domain of heritologists, art and architectural historians, but also of researchers into the history of civilisational development associated with the evolution and transformation of buildings for various purposes. The results of historical research are usually presented in a descriptive manner in the form of monographs or publications. The findings contained therein require a synthesis relating to a specific object, which also takes a descriptive form. Synthetic descriptions of the history and characteristics of an object are devoid of value judgements and their hierarchy. They do not contain the full range of information that can be used by the architect to make design decisions and justify the extent of proposed interventions into the fabric and spatial structure of the monument.

The methods of valuating immovable monuments corresponding to the needs of the architects' design workshop require clarification of the procedures – recognition as an object of protection, value attributes and their carriers.

In the present research devoted to the valuation of architectural heritage in the context of the modernisation of tangible historical structures, an **attribute was interpreted as a characteristic property - an intangible feature that defines the essence of a monumental value (the content of the document, which is a monument or an element of its structure)**, and **a carrier – as an authentic, tangible object, its element or artefact in which these values are recorded. Attribute assessments of intangible values are assigned to their tangible carriers.**

Interpretations of the attribute and its carrier relating to the structural and constructional and functional-spatial structure of the building as the object of an architectural refurbishment project were therefore adopted. This interpretation creates a common field for the integration of conservation assessments into the architect's design workshop, without limiting the possibility of in-depth assessments of intangible values that may directly or indirectly influence design decisions – e.g. the maintenance of the genius loci as expressed in sensory impact on the viewer.

This methodological approach can be referred to as structural valuation. One of the phases of structural valuation is comparative analyses of attributes leading to a prioritisation of attributes, highlighting those that should be subject to the most stringent protection. These attributes include:

exceptional attributes – with specific, unique documentary characteristics,

representative attributes:

characteristic of an object or of a specific resource (group of buildings) – with reference, for example, to local or regional specificity, development of craftsmanship, construction technology, functional solutions, architectural and artistic features, personalised creativity, etc.);

representing repetitive objects – in cases of typified, serial architectural solutions in objects or architectural settings (it then becomes logical to select exemplary objects with the highest degree of authenticity and integrity).

The extent of interference with these objects (value bearing objects) should, apart from the obvious conservation and restoration, be limited to the necessary minimum; the interference should be reversible as far as possible, and the use should be subordinated to didactic functions. This rule should be applied to the remaining carriers of value with – justified by modern usage requirements – deviations ensuring the survival of the monument; with the least possible interference in the historic substance; with the connection of usage to the display of historic values and with the maintenance of the integrity of the historic architectural and functional structure. The scientifically based identification of the non-maintained parts of the object may create justification for the reintegration of the object through contemporary architectural additions in the places of loss.

Establishing permissible and recommended interventions dictated by the protection of value attributes, allows the formulation of conservation assumptions for the modernisation project, and transformations of value carriers can be assessed from the point of view of the impact of modernisation on the preservation of authenticity and historic values.

2.2. Defining values that are recordable by drawing study of the object

The method of drawn analysis and valuation of an architectural object involves making a sequence of sketches depicting the relationship of the neighbourhood and the object itself. The study analyses therefore only refer to the elements of the object as structure, mass, detail. In this way, the structure of the building is treated as a symbiotic form combining the issues of the interior and exterior of the object, which is important and justifiable in terms of a holistic understanding of the architectural object.

The sequence of synthesising sketches is aimed at extracting, based on a record of value carriers, the primary features of an object identical to its value attributes, which require absolute protection.

This paper presents sketches selected from the research, made in pencil, marker, and pencil stick drawing techniques. Each sketch belonging to a particular sequence was described by analysing the individual attributes of the architecture characteristic of the character, including the accuracy of the sketch.

3. Results of research

Attempt 1. The Old Chemistry Building at Warsaw University of Technology (WUT)



1. Mirosław Orzechowski, Old Chemistry Building WUT, Warsaw 2019, sketch 1, pencil, 12x21 cm

The study sketch makes it possible to examine the individual components of the architectural composition. also becomes significant in this case. The broad frame is built on the principles of subjective perspective, noting the sum of information regarding the value attributes contained in their carriers. However, it does not single out any of them; it is a form of general recording of attributes.



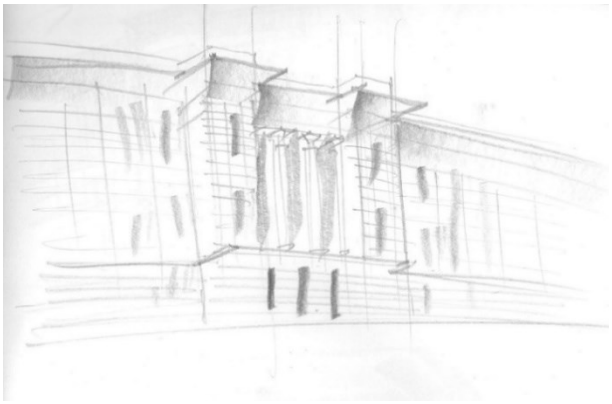
2. Mirosław Orzechowski, Old Chemistry Building WUT, Warsaw 2019, sketch 2, pencil, 12x21 cm

Simplification of the initial sketch. Exploratory sketching of the main attributes of value. The focus on the main entrance area of the edifice emphasises its importance.

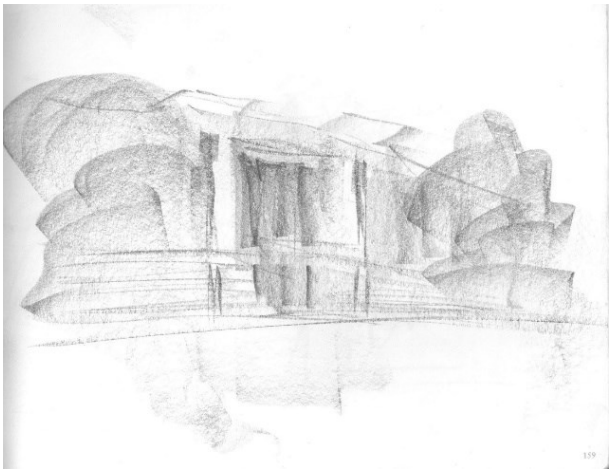


3. Mirosław Orzechowski, Old Chemistry Building WUT, Warsaw 2019, sketch 3, pencil, 16x21 cm

The abbreviated nature of the sketch notation forces one to emphasise the orderly layout. Horizontal lines of the cornices, divisions and rustication of the pedestal become important.



4. Mirosław Orzechowski, Old Chemistry Building WUT, Warsaw 2019, sketch 4, pencil, 14x21 cm



5. Mirosław Orzechowski, Old Chemistry Building WUT, Warsaw 2019, sketch 5, pencil, 12x21 cm

Subsequent attempts to synthesise the view (fig. 4,5) highlight the value attribute carriers perceived in the first sketches. The notation synthetically informs us about the main attributes. The way they are drawn is less important than the clear indication of important attribute of the object, the axiality of the building, the dominance of the entrance avant-corpse in the massing and the stylistic coherence of the object.

Summary of attempt 1

The series of drawings presented subjected to a synthesising sequence modifying the cognitive effects of the drawing made it possible to define the most important attributes of the object's value. Here we are dealing with artistic values. They relate to the defined stylistics of the building from the historicist period of the late 19th century. In a particular way, the sketches refer to the main entrance area dominating the body of the building, emphasised by an avant-corpse and flanking columns.

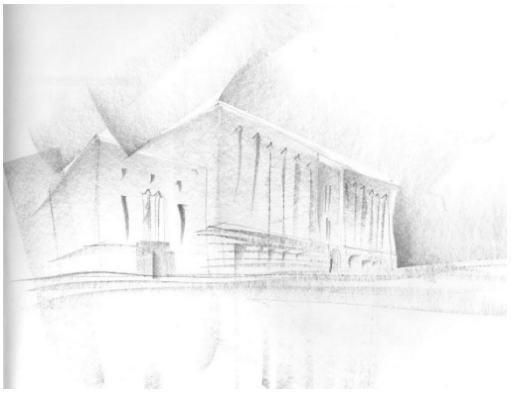
On the basis of the sketches, it is possible to define the possibility and extent of constructional interference in the studied object, in this case in the indicated drawings showing consistent attributes of artistic values concerning issues of stylistic purity, there is no room for design interference disturbing these values.

Attempt 2. Aerodynamics Building WUT



6. Mirosław Orzechowski, Aerodynamics Building WUT, Warsaw 2019, sketch 1, pencil, 17x21

The clarity of the combination of the two masses is striking on first contact with the building. The building is surrounded by dense tall greenery, which quite freely overgrows the entire campus of the Warsaw University of Technology. The sketch, research drawing notes the main material and tectonic features of the façade and the above-mentioned green context as carriers of value.



7. Mirosław Orzechowski, Aerodynamics Building WUT, Warsaw 2019, sketch 2, pencil, 17x21 cm

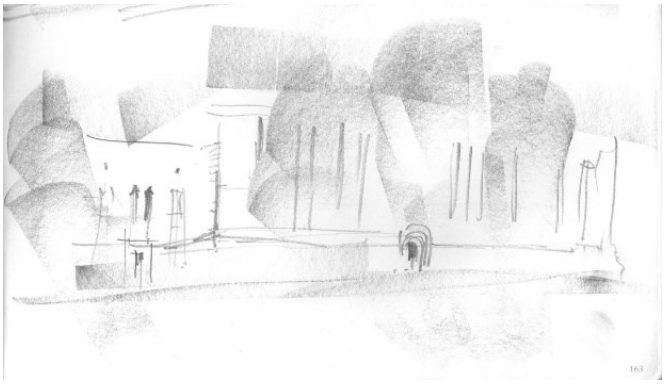
The subsequent sketches attempt to find a graphic shorthand for conveying the character of the architecture. The fragmented brick bond creates a homogeneous surface read as a plane, clear contrasts of window openings and entrance zones appear. The emphasis of the entrance axis zones is very pronounced.



8. Mirosław Orzechowski, Aerodynamics Building WUT, Warsaw 2019, sketch 3, pencil, 9x21 cm



9. Mirosław Orzechowski, Aerodynamics Building WUT, Warsaw 2019, sketch 4, pencil, 12x21 cm



10. Mirosław Orzechowski, Aerodynamics Building WUT, Warsaw 2019, sketch 5, pencil, 12x21 cm

The sketch makes it possible to select the essential carriers of the object's value attributes while omitting elements that are secondary to the main architectural idea. The homogeneous brick mass contrasts with the greenery while at the same time bringing out the elements of entrances and rhythms of windows related to the tectonics of façade shaping. The entry can therefore be minimised to accentuate the entrance rhythms and greenery. The massing of the brick building will provide a backdrop to the selected components.

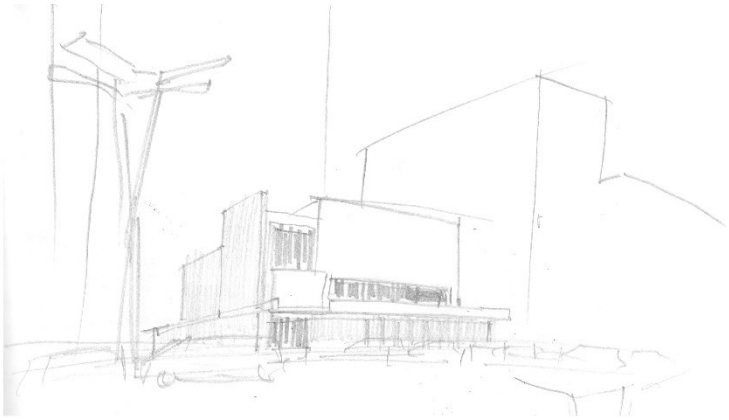
Summary of attempt 2

The series of drawings presented subjected to a synthesising sequence modifying the cognitive effects of the drawing made it possible to define the most important attributes of the object's value. This has to do with artistic values. The building presents defined stylistics of early modernism, with elements of art-deco detailing; the material used, grey brick, places it in a narrow group of buildings constructed in the 1920s, 20th century in Warsaw, the so-called grey brick buildings. As an example of a short-lived but significant phenomenon in Polish architecture, it is an original object of exceptional value. The drawings also revealed yet another

important feature, namely the embedding of the building over time in the greenery growing around it, which, by creating a specific atmosphere, gives rise to yet another value – the intangible Genius Loci.

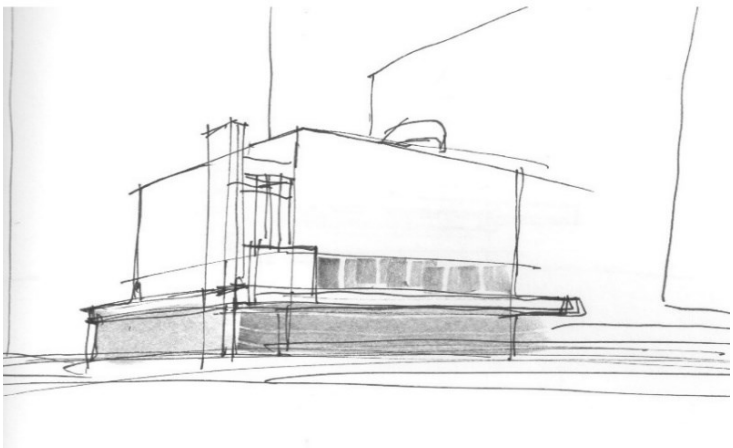
Based on the sketches, the value of the object can be recognised and defined. This makes it possible to potentially indicate the extent of building interventions in the object under study. In the considered case, in the shown sketches demonstrating consistent value attributes, including the value of being embedded in rich high greenery, there is no room for design interference disturbing these values of both tangible artistic and intangible Genius Loci.

Attempt 3. Warsaw, Relaks Cinema



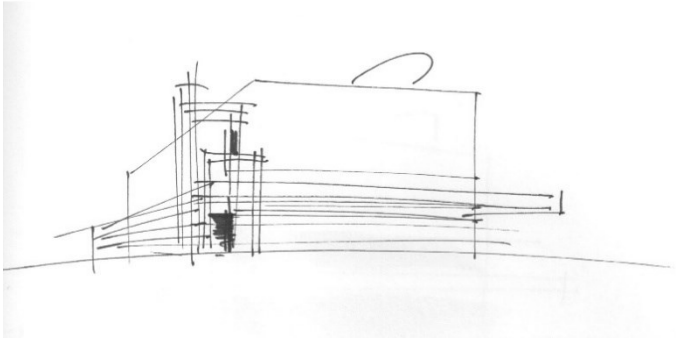
11. Mirosław Orzechowski, Relaks Cinema in the downtown promenade, Warsaw 2017, sketch 1, pencil, 14 x 21 cm

The sketch defines the basic solids that make up the composition of the building. It is an introduction to the search for the most appropriate view, which will allow further simplifications to bring out the key features of the building.



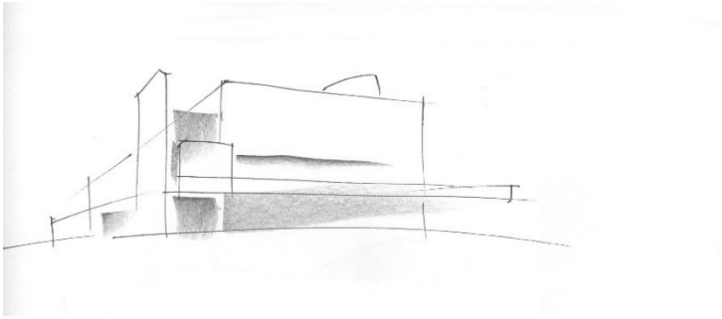
12. Mirosław Orzechowski, Relaks Cinema in the downtown promenade, Warsaw 2017, sketch 2, pencil, 12 x 21 cm

Subsequent exploratory sketches are used to find the most appropriate, abbreviated notation of an architectural form. The sketch combines a pencil stick with a graphite cube drawing. In this figure, the focus is on ‘lifting the mass upwards, by undercutting the glazed ground floor’.



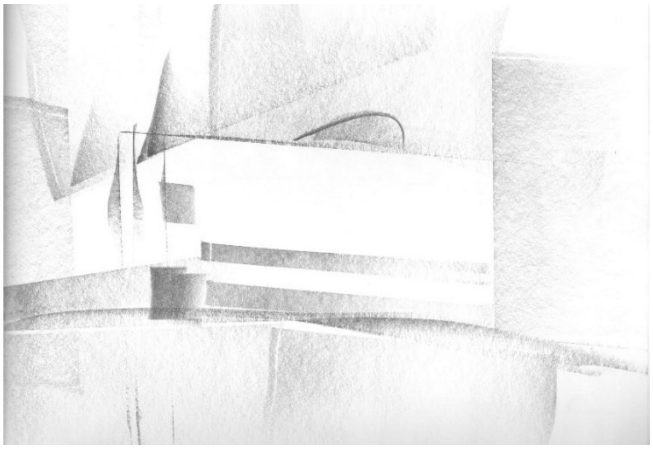
13. Mirosław Orzechowski, Relaks Cinema in the downtown promenade, Warsaw 2017, sketch 3, pencil, 10 x 21 cm

The search for an economical linear notation slightly changes the perception of the object's features. Minimising the notation to lines and spots changes the character of the architecture.



14. Mirosław Orzechowski, Relaks Cinema in the downtown promenade, Warsaw 2017, sketch 4, pencil, 9 x 21 cm

The change to synthesise with a different tool, a graphite cube, opens up a field for synthesis without losing the key features of the object.



15. Mirosław Orzechowski, Relaks Cinema in the downtown promenade, Warsaw 2017, sketch 5, pencil, 16 x 21 cm

Restricting the drawing to simple graphic strokes of the tool, allows to obtain a flat image of a three-dimensional solid, thus the notation becomes intuitive and abstract, preserving the key features of the building. It also relates to the context.

Summary of attempt 3.

The series of drawings presented, subjected to a synthesising sequence modifying the cognitive effects of the drawing, also changing the tools and forms of notation, made it possible to define the most important attributes of the object's value. These attributes represent the artistic values of strict modernism of the 1960s–70s in Poland. The object is an excellent fully preserved example of architecture from this period. The sketch syntheses, in their graphic expression, correspond to the graphic style of the period, which can further emphasise the value attributes that constitute the uniqueness of this building.

Based on the sketches, it is possible to define the possibility and extent of constructional interventions in the studied object, in this case in the indicated drawings showing consistent value attributes, it is possible to look for a place for interventions, design additions respecting these values.

4. Discussion

Drawing analyses, while not replacing historical and preservation studies, may constitute a significant supplement and enrichment of them if they are conducted in a complementary manner and refer to the elements of the architectural structure.

This allows for a more complete, considering a maximum of detailed data, view of the value of the surveyed architectural objects.[18] At the same time, architectural survey drawing is a natural tool for architectural studies and as such seems to be perfectly suited to the nature of the architect's work.

Architectural drawing as a research medium can face objections such as those contained in the essay *Language and Drawing* by Adrian Forty.[19] The author of this essay draws attention to the possible false impression of objectivity imposed by architectural drawing, which, relative to the object presented, is always an incongruous abstraction: 'The conventional systems of architectural drawing, relying upon either orthogonal or perspectival projection, place certain quite particular demands upon the viewing subject. Orthogonal drawings, projected from an infinity of points perpendicular to the surface of the paper, require viewers to imagine themselves atomised into a thousand beings suspended in space before the building; and perspectival drawings, conversely, expect the viewer to suppose they are one-eyed and motionless in one spot. Both are fictions, neither has much correspondence to reality.'[20] The author contrasts it with written/spoken language, which has more affinities with the perception of objects in space: 'It is in the nature of language that words have to be spoken or written in a linear sequence. A drawing, on the other hand, presents its image all at once. In this respect, buildings are more like language than they are like drawings, for they cannot be experienced all at once – they have to be explored by moving through and around them in a sequence; and this sequential motion is much more easily represented by language than it is by drawings.'[21] Drawing is meant to be a representation that does not reflect how architecture is moved and perceived. However, it is worth noting that in his reflections on the essence and relevance of

[18] L.A. de la Fuente Suárez, *Subjective experience and visual attention to a historic building: A real-world eye-tracking study*, "Frontiers of Architectural Research", 2020, vol. 9, Issue 4, pp. 774–804.
[19] A. Forty, *Words and Buildings. A Vocabulary of Modern Architecture*, London 2019, pp. 28–41.
[20] Ibidem.
[21] Ibidem.

this medium for the field, Forty excludes the architectural sketch from the category he condemns. It is, in the author's opinion, by its understatement – the non-totality of representation closer to the user's actual perception: 'There is only one kind of drawing that displays some of language's qualities of indistinctness and ambiguity – the sketch; and we might perhaps see in the greater value attached to the architectural sketch in the course of the twentieth century an attempt to render drawings more language-like.'[22] What follows is that a doubt of this kind does not preclude the use of sketches as an appropriate basis for valuing an object (since one source of valuing is precisely the observer's perception of an architectural monument).

Structuring research carried out to some extent independently in terms of heritage-preservationist and drawing valuation with the integration of the results can give a broader and more comprehensive view of the values of the object under study. Architectural research drawing, involving the recording and synthesis of value carriers, allows the attributes of these values to be read directly, as it were, 'bypassing' the detailed analysis of value carriers that occurs spontaneously during the creation of the drawing record. The power, suggestiveness and interpretability of the graphic notation can thus lead directly to the goal of defining attributes.
The drawing studies presented here demonstrate an architect's workshop that allows architectural designers to independently recognise the value of architectural objects. Such drawing studies can be an excellent supplement to the types of studies and research indicated above. In this way, they become part of a system of structured study of historical objects. They also have an additional significance, as the ease with which architects can produce them can indicate the worthwhile preservation of object values at a fairly early stage of cognitive study, prior to design. However, it seems reasonable that such sketch analyses should be carried out by an architect independent of the commissioned project. Practice shows that an architect entrusted with an adaptation/conservation/restoration project by a private or public investor may find himself under pressure from his employer or, as a result of his own aesthetic convictions, consciously emphasise some values and omit others to achieve the effects most desirable for himself or the investor.[23] These effects, unfortunately, will not always coincide with the public good of care for cultural heritage...

As a result of the studies carried out and the attempts at drawing analysis of the value attributes of historical objects, it can be assumed that valuing an object need not (should not?) be limited to a single drawing. It is appropriate to make, not necessarily in direct contact with the object, a series of synthesising sketches directed towards finding the smallest number of graphic signs to record the view, object, or form under study. As a result of several studies and the making of many drawing samples, it became apparent that the graphic formula is also important for this type of sketch. The simplest and traditional tools are preferred, such as a broad, cube-shaped pencil graphite, a thin graphite stick or a pen. These tools assist in a simple nothing suggestive, objective graphic record.

Further investigation is required into the possibility of applying the proposed synthesisation on a wider scale in analyses of objects created before the 20th century, where,

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[22] Ibidem.
[23] R. Shipley, *Heritage Designation and Property Values: Is there an Effect?*, "Journal of Heritage Studies", 2000, vol. 6, no. 1, pp. 83–100.

due to the complex hierarchy of scales and often rich ornamentation,[24] there is a danger of overlooking important relationships to the object. The effect of such a danger could be to disrupt the integrity of the heritage object under study with oversimplified contemporary elements/objects.

5. Conclusions

A historic building or a part of it may be a set of meaningful attributes of value located in the elements of the structure of the object and the surrounding space, Therefore, the valuation of the object should be obligatorily the subject of research (as a pre-design part of the documentation of its adaptation and modernisation) developed jointly by the architect and historian – historian with a specialisation relevant to the assessed object. The absence of such research or an inadequate assessment of value may lead to the irreversible loss of the monument.

The protection of the diversity and richness of the attributes of heritage values requires perfecting the methods and tools for their identification, assessment, and recording, which are the basis for the design decisions of modernisation and adaptive reuse and, therefore, inevitable – interference in historic structures. Drawing value analysis is an important complement to the methods of valuation and integration of the conservationist's workshop with the architect's design workshop.

Hand-drawing from nature has hitherto untapped research potential. Restricting its applications to the creation of images, recording the state of an object and treating it solely as a work of art removes much of its essence as a human creation. Understanding drawing as a language, moreover as a component of reasoning and analysis processes, opens a wide area of research as well as pointing to the essence of the activity of drawing. Realistic drawing based on an analysis of proportions, as described in this article, corresponds to the capacity of analytical reasoning ascribed to everyone, where the act of recording data takes on importance, gaining primacy over the aesthetic side of drawing, which nevertheless never remains indifferent. The selection of drawings presented here, constituting only a fragment of the research work, represents the use of drawing as a method of learning about architecture, further as a method of inquiring into its attributes, and finally as a method of recording the sum total of its values Hand-drawing can be understood and used as an indispensable component of research processes both in the field of architecture and in related disciplines.

[24] S. Salingaros, *Hierarchial cooperation in architecture and the mathematical necessity for ornament*, "Journal of Architectural and Planning Research", 2000, vol. 17, pp. 221–235.

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