

Stone Sculptures of Bohemian Beautiful Style  
– Production Techniques Exemplified  
by the Figure of St Elisabeth from the Collection  
of the National Museum in Gdańsk  
(as a Side Note to Conservation  
and Restoration Treatment)

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**Słowa kluczowe:** sztuka średniowieczna, rzeźba kamienna, technika, technologia, czeski styl piękny, styl międzynarodowy, projekt badawczy, św. Elżbieta, konserwacja i restauracja rzeźby kamiennej, narzędzia, polichromia na kamieniu, relikty polichromii, oczyszczanie, konsolidacja, konserwacja zachowawcza, złota opoka, 1380–1400, Gdańsk, Muzeum Narodowe w Gdańsku

**Abstrakt**

**Technika wykonania rzeźb kamiennych czeskiego stylu pięknego na przykładzie figury św. Elżbiety ze zbiorów Muzeum Narodowego w Gdańsku (na marginesie konserwacji i restauracji)**

Artykuł jest poświęcony kamiennemu posągowi św. Elżbiety ze zbiorów Muzeum Narodowego w Gdańsku, dawniej – ze szpitala św. Elżbiety w Gdańsku (acc. no. MNG/



SD/2/Rz). Przedstawia wpływ jego historii na stan zachowania, podjęte działania konserwatorskie wraz z ich uzasadnieniem, a przede wszystkim analizę techniki warsztatu rzeźbiarskiego: materiałoznawczą, technologiczną i stylistyczną. Wykazano, w jaki sposób rodzaj użytej skały – wapiennej opoki marglistej z kamieniołomów praskich (złota opoka, cz. *zlatá opuka*) – oraz biegłe opanowanie i świadome wykorzystanie szerokiej gamy narzędzi kamienniarskich przyczyniło się do powstania dzieła najwyższej klasy formalnej i artystycznej. Określono także, jakie znaczenie dla projektu badawczego „Styl piękny w redakcji czeskiej w Prusach – rzeźba kamienna z lat 1380–1400” (2018–2022, Muzeum Zamkowe w Malborku) miały prace konserwatorskie i badania przeprowadzone przy rzeźbie.

### Abstract

The paper concerns a stone statue of St Elisabeth from the collection of the National Museum in Gdańsk, formerly from St Elisabeth Hospital in Gdańsk (inv. no. MNG/SD/2/Rz). The paper presents the impact of the statue's history on its state of preservation, undertaken conservation measures with justification and – primarily – analysis of the workshop techniques: in terms of materials, technologies and style. It is demonstrated how the type of stone used – marlstone from the Prague quarry (Golden opuka) – as well as a conscious, skilled employment of a wide range of sculpting tools, determined the creation of a masterpiece of the highest formal and artistic quality. The paper also describes the significance of the conservation and analyses of the sculpture for the research project „The Beautiful Style in Bohemian Rendition in Prussia – Stone Sculpture from the Years 1380–1400” (2018–2022, Castle Museum in Malbork).

Restoration works, during which an individual artwork is being studied inch by inch to recognise its needs, always give a unique opportunity for an in-depth analysis of the character of craftsmanship: of identifying the original technical measures and technological solutions. Gathering such information in the case of the figure of St Elisabeth from the National Museum in Gdańsk (further: MNG) (inv. no.: MNG/SD/2/R (fig. 1: a–d), on permanent display in the Gallery of Medieval Art (fig. 2)<sup>1</sup> may be a contribution to further comparative analyses and complement the general characteristics of the stone-carvers working in the Bohemian Beautiful Style (1380–1400), including the manner of using Prague Golden opuka, that is the rock in which this and related sculptures were carved.

<sup>1</sup> For security, the stand-alone statue, accessible from all sides, is stabilised with a steel stand painted black, with a hook-ended rod mounted directly in a historic iron ring set in the sculpture. The sculpture stands in the central area of the exhibition room, at eye level, close to St Elisabeth's altar retable from the church of the Blessed Virgin Mary in Gdańsk.

This historic sculpture, part of the heritage of Gdańsk, is a freestanding statue, 89 cm high, carved on all sides, intended to be viewed from the front and carved together with an octagonal pedestal (extensively reconstructed). It depicts St Elisabeth of Hungary as a woman with a youthful, almost child-like idealised face and somewhat squat body. The Saint is posed in a graceful *contrapposto*, with her head slightly inclined. She holds a bowl of grapes (now incomplete) in her left hand, and in the right hand another attribute, presently missing. The Saint is dressed in a long, softly draped gown and a voluminous cloak, originally trimmed with gold. A wimple is draped around the face and neck, the head and shoulders covered with a head scarf or veil with straight, tubular cascading folds. A diamond-shaped *monila* clasps the cloak over her chest, peeking from under the wimple. The cloak's tail, draped over the Saint's right arm, runs across her body and is gathered under her left arm, creating bowl-shaped folds at the front, while the back side of the cloak is shaped in a regular arch. The bottom part of the gown at the back of the sculpture was reconstructed during a previous restoration<sup>2</sup>, together with a large portion of the pedestal.

The recent conservation and restoration of the sculpture together with a series of material testing were included into an extensive, interdisciplinary research project, „The Beautiful Style in Bohemian Rendition in Prussia – Stone Sculpture of the Years 1380–1400”, which took place between 2018–2022, organised by the Castle Museum in Malbork in cooperation with the National Museum in Gdańsk and the National Maritime Museum in Gdańsk. The research team, combining the experience of museologists, academics, art historians, and conservators-restorers working in close cooperation, investigated a group of sixteen stone sculptures from the territory of the former State of the Teutonic Order. Research focused on materials, style and history, and characterisation of the technology that distinguish Gothic sculpture of the Prague milieu<sup>3</sup>. The majority of the investigated objects,

<sup>2</sup> Reconstructive conservation work was carried out in 2007 in the National Museum in Gdańsk conservation workshop. Based on the photographic documentation in the museum's Conservation Department archives, the first attempts at cleaning the sculpture's surface were also made at that time.

<sup>3</sup> See the website for the project: <https://marlstone.zamek.malbork.pl/> (accessed June 20, 2023). The project assumptions and results are summarised in a multi-author monography: *Rzeźba kamienna czeskiego stylu pięknego z lat 1380–1400 na terenie państwa zakonu krzyżackiego w Prusach. Materiał – technika – styl – funkcja*, ed. Monika Jakubek-Raczkowska (Malbork: MZM / Toruń: TNT, 2022).

including the sculpture discussed here, were presented to the public in the exhibition “Bilde von Prague. Czeska rzeźba kamienna stylu pięknego około 1400 w państwie krzyżackim w Prusach” (“Bilde von Prague. The Bohemian Beautiful Style Stone Sculptures ca. 1400 in the Teutonic State in Prussia”) at the Castle Museum in Malbork (2020)<sup>4</sup>.

### Remarks on the sculpture's history and style

It is widely accepted that the statue had served as the patron figure in the presently non-existent chapel of the complex of St Elisabeth Hospital<sup>5</sup>, which was located in the Gdańsk Old Town area, presently Elżbietańska St. and also served as a poorhouse. The statue's iconography was intended to emphasize the charity work of the Saint, hence her being depicted without the ducal mitre but instead in widow's attire and veil with suitable attributes – a bunch of grapes in one hand and a jug or a loaf of bread in the other.

In the early 1550s, a part of the hospital complex was demolished. Probably on that occasion, the statue, together with other rubble, was used as building material for the Gdańsk city fortifications. The sculpture had been buried in the debris for almost three hundred and fifty years and was recovered only during the demolition of the fortress rampart circa 1898. Shortly after, the statue was acquired by the City Museum (Stadtmuseum Danzig) and incorporated into its exhibition<sup>6</sup>. During World War II, like many other artworks threatened by warfare (among others, the sculptures from St Elisabeth's retable), it was evacuated, hidden and subsequently taken to Germany (1944) and then to the Soviet Union (1945), from where it finally came back to the Gdańsk museum, which was renamed as the Pomeranian Museum after the war (at present the National Museum in Gdańsk), together with other artworks revindicated in 1956.

<sup>4</sup> Monika Jakubek-Raczkowska and Monika Czapska, *Bilde von Prague. Czeska rzeźba kamienna stylu pięknego około 1400 w państwie krzyżackim w Prusach. Katalog wystawy czasowej w Muzeum Zamkowym w Malborku, 17 października 2020–03 stycznia 2021* (Malbork: MZM, 2020).

<sup>5</sup> See the most recent analyses: Jakubek-Raczkowska and Czapska, *Bilde von Prague*, 144–147, cat. no. 14; Weronika Grochowska, Kamila Ślefarska, and Agnieszka Ruszkowska, “Gdańsk. Św. Elżbieta z Turyngii (z gdańskiego szpitala św. Elżbiety),” in *Rzeźba kamienna*, 339–343 (cat. no. 6).

<sup>6</sup> The sculpture was introduced into literature by Hans Friedrich Secker, *Gemälde Sammlung Stadtmuseum Danzig. Die Städtische Gemäldegalerie im Franziskanerkloster (Stadtmuseum)*, vol. 1 (Danzig: W. F. Burau, 1913), 21; soon afterwards it was noted in a study by Bernhard Schmid, “Die bildende Kunst in Preußen zur Zeit des deutschen Ritterordens,” in *Die Provinz Westpreußen in Wort und Bild*, part 2, *Einzelldarstellungen* (Danzig: A. W. Kafemann, 1915), 447.

As it has been demonstrated by research of the past two decades<sup>7</sup>, this sculpture – mistakenly attributed earlier to the Marburg circle<sup>8</sup> – belongs to the early phase of Bohemian Beautiful Style and is closely related to two other Prussian statues depicting the same female Saint – from St John's church in Malbork<sup>9</sup> (the Castle Museum in Malbork, deposit, inv. no. MZM/M/Rz/Tk/MB/115) and from St Elisabeth retable from Gdańsk<sup>10</sup> (the National Museum

<sup>7</sup> See a.o.: Monika Jakubek-Raczkowska, "Czeskie filiacje w rzeźbie gdańskiej na przełomie XIV i XV wieku," in *Materiały sesji naukowej poświęconej pamięci prof. Gwidona Chmarzyńskiego w trzydziestą rocznicę śmierci*, ed. Józef Poklewski (Teka Komisji Historii Sztuki 10) (Toruń: TNT, 2005), 104; Monika Jakubek-Raczkowska, *Rzeźba gdańska przełomu XIV i XV wieku* (Warszawa: DiG, 2006); Monika Jakubek-Raczkowska, *Plastyka średniowieczna od XIII do XVI wieku. Katalog wystawy stałej. Muzeum Narodowe w Gdańsku* (Gdańsk: MNG, 2007), 66–67 (cat. no. 27); Monika Jakubek-Raczkowska, "Die Einflüsse Böhmens auf die gotische Skulptur im Ordensland Preußen – ein Überblick im Lichte der neusten Forschungen," in *Kunst als Herrschaftsinstrument. Böhmen und das Heilige Römische Reich unter den Luxemburgern im europäischen Kontext*, eds. Jiří Fajt and Andrea Langer (Berlin: Deutscher Kunstverlag, 2009), 555.

<sup>8</sup> Karl Heinz Clasen, *Die mittelalterliche Bildhauerkunst im Deutschordensland Preußen. Die Bildwerke bis zur Mitte des 15. Jahrhunderts* (Berlin: Deutscher Verein für Kunswissenschaft, 1939), 214, 308, cat. no. 102; after him: Janina Kruszelnicka, "Dwie gotyckie figury św. Barbary z kaplicy w Barbarce pod Toruniem," *Rocznik Muzeum Okręgowego w Toruniu* 2, z. 3–4 (1967): 127.

<sup>9</sup> The sculpture was probably originally intended for the Malbork Holy Ghost Hospital, then was part of the furnishing of St John's church in Malbork. Since 2010 it has been exhibited in the Castle Museum in Malbork as a deposit. See recently: Monika Czapska, Jolanta Ratuszna, and Agnieszka Ruszkowska, "Malbork. Św. Elżbieta z Turyngii," in *Rzeźba kamienna*, 375–389 (cat. no. 9). See in earlier literature, a.o.: Małgorzata Paszylka, "Gotycka figura św. Elżbiety Turyńskiej z kościoła farnego pod wezwaniem św. Jana Chrzciciela w Malborku," *Rocznik Gdańsk* 54 (1994): 79–85; Jakubek-Raczkowska, *Rzeźba gdańska*, 99–100; Jakubek-Raczkowska, „Die Einflüsse Böhmens," 555; Święci orędownicy. *Rzeźba gotycka na Zamku w Malborku. Katalog wystawy*, ed. Monika Czapska (Malbork: MZM, 2013), 310–311 (cat. no. 62); Jakubek-Raczkowska and Czapska, *Bilde von Prage*, 141–142 (cat. no. 13); Monika Czapska, "Dwie figury św. Elżbiety z Turyngii. O zaskakującym odkryciu na marginesie badań nad sztuką około 1400 roku w Prusach krzyżackich," *Acta Universitatis Nicolai Copernici. Zabytkoznawstwo i Konserwatorstwo* 53 (2022): 107–146.

<sup>10</sup> A group of sculptures from St Elisabeth retable in Our Lady's church in Gdańsk: *Pieta*, inv. no. MNG/SD/3/Rz/1, a female sait (Mary Magdalene?), inv. no. MNG/SD/3/Rz/3, St Elisabeth, inv. no. MNG/SD/3/Rz/2. For style analysis see among others: Paul Abramowski, "Danziger Plastik von der Mitte des 14. Jahrhunderts bis zum Beginn der Renaissance," doctoral thesis, Universität Leipzig. 1926, 41–42; Paul Abramowski, „Gotische Altäre der Danziger Marienkirche," *Ostdeutsche Monatshefte* 8, no. 5 (1927): 360; Clasen, *Die mittelalterliche Bildhauerkunst*, 210–213 (cat. no. 101); Albert Kutil, "K problému horizontálních piet," *Umění* 9 (1963): 340; Kruszelnicka, "Dwie gotyckie figury," 130; Jakubek-Raczkowska, *Rzeźba gdańska*, 89–103; Jakubek-Raczkowska, *Plastyka średniowieczna*, 68–71 (cat. no. 2); Jakubek-Raczkowska, "Die Einflüsse Böhmens," 555–556; Matthias Weniger, "Bernský skulpturální nálezový fundus a vědecký výzkum tzv. krásných piet / Der Berner Skulpturenfund und die Forschung zu den Schönen Vesperbildern," in *Pražská Pieta v Bernu. Předmět obchodu – modla – muzejní*

in Gdańsk, inv. no. MNG/SD/3/Rz/2)<sup>11</sup>. These sculptures demonstrate similar iconographic and costumological features while the style, form and high artistic quality leave no doubt that they were made in the same workshop circle described as the “circle of St Elisabeth’s retable” revealing a Bohemian provenance<sup>12</sup>. It is more than probable that all the sculptures belonged to a wave of Bohemian imports<sup>13</sup> brought to Prussia by – among others – the Teutonic Knights (the theory supported by the fact that the discussed statue was intended for the hospital founded by the initiative of the Teutonic Knights, under the patronage of Konrad von Jungingen, and the Malbork statue was probably destined for the great masters’ chapel<sup>14</sup>). It is because of those Bohemian imports that the International Style, also called the Beautiful Style emerged in Prussia already in an established form<sup>15</sup>. A free-standing devotional statue, unrelated to any altar retable but maintaining its autonomy within the liturgical space was one of the most common formulas of expression of the International Style<sup>16</sup>.

### Examination and restoration

The restoration works of the statue of St Elisabeth were preceded by complete photographic documentation (VIS, IR, UV)<sup>17</sup>. It was accompanied by

*exponát*, eds. Susan Marti, Richard Němec, and Marius Winzeler (Praha: Narodní galerie / Bern: Bernisches Historisches Museum, 2018), 110, 115, 117, 130; Jakubek-Raczkowska and Czapska, *Bilde von Prage*, 149–152, cat. no. 15. For the retable as local work: Krystyna Melin, „Gdański cech stolarzy w późnym średniowieczu,” *Gdańskie Studia Muzealne* 1 (1976): 75–76. For paintings on the wings: Adam S. Labuda, “Twórczość gdańska pierwszej połowy XV wieku,” in Jerzy Domasłowski, Alicja Karłowska-Kamzowa, and Adam S. Labuda, *Malarstwo gotyckie na Pomorzu Wschodnim* (Prace Komisji Historii Sztuki PTPN 17) (Warszawa: PWN / Poznań: PTPN, 1990), 91–93; Adam S. Labuda, “Gdańsk, kościół par. Głównego Miasta. Tryptyk,” in *Malarstwo gotyckie w Polsce*, vol. 2, *Katalog zabytków*, eds. Adam S. Labuda and Krystyna Secomska (Dzieje Sztuki Polskiej, t. II, cz. 3) (Warszawa: DiG, 2004), 163.

<sup>11</sup> See separately: Weronika Grochowska, Kamila Ślefarska, and Agnieszka Ruszkowska, “Gdańsk. Św. Elżbieta z Turyngii (z ołtarza św. Elżbiety / tzw. Ołtarza Opłakiwania),” in *Rzeźba kamienna*, 315–327.

<sup>12</sup> Monika Jakubek-Raczkowska, “Rzeźby czeskiego stylu pięknego w Prusach. Rozważania o formie,” in *Rzeźba kamienna*, 109–114.

<sup>13</sup> Ibidem and: Monika Jakubek-Raczkowska, “Wprowadzenie do problematyki badawczej,” in *Rzeźba kamienna*, 19–30.

<sup>14</sup> Czapska, Ratuszna, and Ruszkowska, “Malbork. Św. Elżbieta z Turyngii,” 380.

<sup>15</sup> Jakubek-Raczkowska, “Czeskie filiacje,” Jakubek-Raczkowska, *Rzeźba gdańska*, 87–114.

<sup>16</sup> Jakubek-Raczkowska, *Plastyka średniowieczna*, 14.

<sup>17</sup> Photographic documentation by Grzegorz Nosorowski, Andrzej Leszczyński, Juliusz Raczkowski.

an analysis of microbiological contamination of both the sculpture and its environment<sup>18</sup> and an extensive program of instrumental analyses concerning the technologies and materials employed. The samples for the study of the composition of the mineralogical material were obtained with no damage to the form or structure of the sculpture. The results allowed an unambiguous identification of the sculpture's material as *zlatá opuka*. Its characteristics are convergent with the composition of Prague deposits from the quarry in Přední Kopanina, which may indicate that it had been quarried from similar sources. The analyses aimed to determine the petrographic character of the rock and its precise lithology. The results were compared with the properties of reference samples and the data from petrographic analyses of remaining sculptures created for the Teutonic State in Prussia. The research unequivocally confirmed the concurrence of the obtained results – both qualitative and quantitative ones – for all rock samples acquired from the sculptures and for reference samples from the Prague quarry in Přední Kopanina<sup>19</sup>.

Examination of the sculpture also included instrumental analysis of its polychromy. Due to trace amounts of original paint layer and gilding preserved it was only possible to obtain a limited number of samples. The laboratory tests of the polychrome remnants allowed identification of the deposits, pigments and binders and establishing their stratigraphy. The final interpretation of the results took into account a comparative analysis of all corresponding data obtained within the project<sup>20</sup>.

<sup>18</sup> Magdalena Dyda, "Raport: analizy parametrów fizyko-chemicznych powietrza w pracowni konserwatorskiej Muzeum Narodowego w Gdańsku," research report, RDLS Heritage / Warsaw University, Warsaw 2020; Magdalena Dyda, "Raport: analizy zanieczyszczenia mikrobiologicznego powierzchni rzeźby św. Elżbiety (MNG/SD/2/Rz) w Muzeum Narodowym w Gdańsku z dnia 30 VI 2020," research report, RDLS Heritage / Warsaw University, Warsaw 2020; Magdalena Dyda, "Raport: analizy zanieczyszczenia mikrobiologicznego powietrza w pracowni konserwatorskiej Muzeum Narodowego w Gdańsku," research report, RDLS Heritage / Warsaw University, Warsaw 2020, access: Collections Conservation Department of the National Museum in Gdańsk.

<sup>19</sup> The results of analyses revealed that the percentage and qualitative ratio of all compounds of the sample from the statue are compatible with the composition of the reference sample acquired for the project from the Prague quarry. See the interpretation of the results of analyses of 17 sculptures within the project "Styl piękny w redakcji czeskiej w Prusach – rzeźba kamienna z lat 1380–1400" ("The Beautiful Style in Bohemian Rendition in Prussia – Stone Sculpture of the Years 1380–1400"): Wojciech Bartz, "Materiał czeskich rzeźb kamiennych z terenu państwa zakonnego w Prusach," in *Rzeźba kamienna*, 47–65.

<sup>20</sup> The laboratory of Miedzyuczelniany Instytut Konserwacji i Restauracji Dzieł Sztuki (The Inter-Academy Institute of Conservation and Restoration of Works of Art) in Warsaw carried out analyses involving SEM-EDS, FTIR, GC-MS, LC-MS, staining tests on cross-sections of samples and observation of samples in VIS and UV light, as well as microchemical analyses,

The turbulent history of the sculpture impinged on its state of preservation (fig. 3). Being for decades exposed to mechanical damage, harsh outdoor conditions and water it had almost entirely lost its original polychrome, the remnants of which can be found only in the deepest cavities of carving (fig. 4). The structural integrity of the sculpture was also affected. The figure is marked with numerous impact damages, chipping and scratches. Whole details, such as the hand, part of the nose, and the attributes, are missing. In the lower part of the sculpture entire parts of the garment were lost. Additionally, dark, thick and dense deposits disintegrated the remnants of polychrome and gilding, defacing the Saint's figure as have the dark blemishes on the upper part of the statue<sup>21</sup>. Despite the damages, incomplete form and defacing deposits, the artistic value of the artwork has not been obliterated. The original artistic concept and exceptional craftsmanship are still visible and suggestive. That is why the goal of the conservation-restoration was to improve the sculpture's condition and expose as much as possible the invaluable original material. There was no attempt to reconstruct the form (the historical reconstruction of the lower part of the robe at the back and parts of the base were preserved as these added stability to the statue). The treatment focused on reintegration and restoration of original materials and historical techniques. Non-invasive cleaning was used to guarantee that no detail of the sculpture's original surface finishing was lost (the subtle, precise grooves and carved lines, remnants of the polychrome etc.). Thus, although a complete spectrum of conservation and restoration treatments was employed, the final effect remained restrained<sup>22</sup>.

The sculpture was disinfected; the stone was strengthened in the weakened areas and the remnants of the original paint layers and gilding were consolidated. Cleaning could only be carried out after consolidation. Because both the limestone and the remnants of the polychromy were susceptible

see: Joanna Kurkowska, Elżbieta Jeżewska, Bartłomiej Witkowski and Anna Tomkowska, "Badania warstw malarskich i nawarstwień próbek pobranych z rzeźby kamiennej św. Elżbiety z kolekcji Muzeum Narodowego w Gdańsku, nr inw. MNG/SD/2/Rz," research report, Warszawa 2020, access: Collections Conservation Department of the National Museum in Gdańsk. See also Agnieszka Ruszkowska, "Analiza reliktów polichromii rzeźby św. Elżbiety na podstawie badań wykonanych w projekcie," in *Rzeźba kamienna*, 335.

<sup>21</sup> An example of the influence of metabolism of microbes feeding on organic compounds of paint layers, such as egg-white, casein linseed oil or waxes.

<sup>22</sup> The full report on the works carried out on the sculpture in the years 2019–2020: Kamila Ślefarska, "Problematyka konserwatorska-restauratorska figury św. Elżbiety z Muzeum Narodowego w Gdańsku," in *Rzeźba kamienna*, 221–232.

to water, a safe method of cleaning with peel-off type latex poultices was employed. The deposits were gradually softened, bound in the poultice, and removed. To achieve the desired effect the application of poultices had to be repeated several times, avoiding the areas where the remnants of polychromy were present. The thick, dark crust of deposits required additional restoration treatment. After a careful localised softening of the deposits with chemicals these were removed mechanically with small conservation tools (fig. 5). The gradually revealed layers of original finish were consolidated and the cleaning continued. By applying this step by step approach, some still preserved areas of original finish were recovered. The historic restorations were adjusted to maintain the aesthetic and formal integrity of the artwork and the necessary filling of the gaps was performed.

After treatment, the stone's structure was stable. The secondary surface deposits were removed to the extent so not to affect the layers closest to the original surface however still allowing an appreciation of the aesthetic value of the artwork. The treatment was not intended to remove all the deposits, some of them remained as a dark, uneven veil. This staining is probably a result of metabolic processes of microorganisms that occurred in the polychrome layers susceptible to biological decay (binders, primers). As such, these remnants – beside the relics of polychrome hidden in hollows of the carving – are the only visible traces of coloured details on the sculpture's surface. The historic loss of details (the lost right hand, part of the nose and the fingers of the left hand with part of the grapes) were respected. Consistently, the missing folds of the robe and cloak and the pointed toes of the footwear were not reconstructed. As it was mentioned before, the only earlier reconstructions preserved were the parts significant for the sculpture's stability (the folds of the robe at the back and fragments of the base). These were made with mineral mortar imitating stone.

### **Analysis of the production techniques**

The sculpture<sup>25</sup> is comprised within the shape of an elongated, slightly flattened cuboid 31 cm wide, 23 cm deep and 89 cm high. It can be assumed that

<sup>25</sup> The remarks on technique of the making of stone sculptures of the Beautiful Style in comparative terms see Jolanta Ratuszna, "Technika wykonania kamiennych rzeźb czeskiego stylu pięknego na przykładzie zespołu zabytków z państwa zakonnego w Prusach," in *Rzeźba kamienna*, 82–87.

the composition was carved from a block of stone of similar dimensions (with the offset ca.  $30 \times 40 \times 100$  cm). The size is similar in the case of almost all free-standing figures of Saints from the territory of the Teutonic State that were analysed within the framework of the aforementioned project – their height does not exceed 90 cm, and their footprint is ca.  $25 \times 40$  cm<sup>24</sup>. This leads to the conclusion that the size of the stone blocks had been normatively imposed by the craftsmen quarrying the stone, which in turn was dictated by the geological features of the rock itself<sup>25</sup>. Stone blocks of that standardised size were handed over to the stone-carvers' workshops. Proper identification of the stone and distribution of minerals within its structure undoubtedly posed a challenge to the sculptor. Knowledge of the material was crucial for determining the local differences in the density of stone, which in consequence required adequate use of tools to minimise the risk of damage related to the geology as well as to the hidden faults within the structure of the material<sup>26</sup>. In accordance with the rules of work organisation in builders' guilds, in the 13<sup>th</sup> and the 14<sup>th</sup> centuries, the stone carvers employed the method of direct carving – the outlines of two views of the intended shape were transferred onto the stone block, which defined the limits of carving the figure with no need of a model<sup>27</sup>. The exception was made for special commissions of larger sculptures since they required an individual approach (for example, a statue of an unprecedented size – the *Pieta* from Our Lady's Basilica in Gdańsk<sup>28</sup>, fig. 6).

<sup>24</sup> See *Rzeźba kamienna*, 301 (cat. no. 4), 315 (cat. no. 5), 329 (cat. no. 6), 375 (cat. no. 9), 409 (cat. no. 11).

<sup>25</sup> R. Jundrowský, *Kamieniarstwo. Współczesne spojrzenie na tradycję*, ed. and additions Erik Tichý (Warszawa: Arkady, 2015); Ratuszna, „Technika wykonania,” 68.

<sup>26</sup> See Wojciech Bartz, „Raport końcowy z realizacji projektu badawczego: Styl piękny w redakcji czeskiej w Prusach – rzeźba kamienna z lat 1380–1400. Badania petrograficzne,” research report, Wrocław 2019, access: Dział Konserwacji Zbiorów MNG; Jundrowský, *Kamieniarstwo*, 14. Although rough tooling of blocks (especially bigger ones) could have been performed already on the yard close to the quarry to reduce their weight for transport. See also Ratuszna, „Technika wykonania,” 71.

<sup>27</sup> Tadeusz J. Żuchowski, *Poskromienie materii. Nowożytnie zmagania rzeźbiarzy z marmurem karyjskim. Michał Anioł, Bernini, Canova* (Poznań: Wydawnictwo Naukowe UAM, 2010), 18, 30–31.

<sup>28</sup> See most recently Weronika Grochowska, Kamila Ślefarska, and Agnieszka Ruszkowska, „Gdańsk. *Pieta*,” in *Rzeźba kamienna*, 263–279 (cat. no. 2). The sculpture, available for religious devotion, is displayed in St George's Chapel in the Basilica of Assumption of the Most Blessed Virgin Mary in Gdańsk is a deposit of the National Museum in Gdańsk, to the collection of which it was included in 1947 (then the Pomeranian Museum in Gdańsk); dimensions:  $145 \times 165 \times 52$  cm.

The author of the statue of St Elisabeth, despite being forced to respect the imposed narrow shape, overcame the restrictions in a masterly way. The composition of the figure, standing in a slight *contrapposto*, is graceful and effortless, despite its compact proportions. The axis of the body, both in front and in side view, follows a subtle elongated “S” (*serpentinata*): Elisabeth slightly bends her head sideways and down, towards her left shoulder, the hands are gently raised, holding the attribute at waist height. There was not enough stone in the block to carve the most protruding elements of the sculpture, hence the bowl of grapes held in the outstretched left hand had to be pieced together from two stone inserts butted one from the front and one from the side (fig. 7: a–b). Evenly cut planes of the stone meet here at right angles. Their smooth surfaces do not bear any marks of assembly drills, just a slanting network of shallow cuts that originally provided tooth for gluing the pieces together, hence this part was susceptible to damage. The other severe damage to the sculpture is the lack of the right hand with the attribute, probably a loaf of bread. It is hard to determine, whether this detail was also originally a butted insert, but certainly the hand suffered mechanical damage – it has been broken away, leaving a rough fracture at the point where the tail of the cloak is slung over the arm. Apart from these details, the rest of the figure was carved out from one block of stone.

The figure of St Elisabeth, although intended to be viewed from the front, has been carefully sculpted on all sides, which is best demonstrated by the accuracy of crafting the arch of the pulled-up cloak and folds of the robe at the back of the figure – with the lower part now reconstructed. At the same time, those forms are definitely more flat, sparing, and compact, while under the hem of the veil covering the back and the shoulders, the stone was given an almost entirely flat and smooth finish (fig. 8). It is the only uncarved area of the figure – the surface of the veil was smoothed and the traces of transversely striped grooving and vertical crimping of the hem of the head scarf fade away. Right under its edge, in the middle are left the sketch cuts of rough-tooling, uneven and unfinished, with the surplus of stone material (fig. 9). This lack of finishing resulted probably from the intention to expose the sculpture right against the wall, hence the presence of an iron ring set in a socket filled with lead on the back of the statue, for mounting to a hook on the wall for extra stability. The slapdash manner in which this fastening was set in stone (chaotic cuts, sharp, deep tool marks in the area of the previously carefully finished rear surface of the cloak), suggests that the fitting

was added later, possibly a decision made on the location of its final display. However, the bottom of the statue's base was left in its original, rough condition – the entire surface is marked with short, sharp cuts made with a chisel with a ca. 1,5 cm wide blade. The cuts of diverse depth run roughly in one slanting direction, however, without a defined order, creating a very irregular, sharp texture. The attention is drawn to several sharper, V-shaped cuts with conchoidally jagged edges, but mostly to centrally placed two pairs of vertical grooves and a ca. 3 cm long slanting one that can be interpreted as a mason's mark of the craftsman or the craftsmen's guild<sup>29</sup>.

The work is characterised by a very compact sculpted form. Even the richly draped and ruffled textile of the Saint's attire complies with the body's volume, which is set in a suggestive, gently moving pose. The depth and fleshiness of folds are distinctly differentiated, which brilliantly imitates the type and volume of the fabric. The folds of the gown and of the trimmed cloak, are cut expressively but not too deeply with a rounded chisel so that the slanting, arched, or vertical grooves are gently rounded, and the ridges retain a soft ovoid shape. They create a dynamic but harmonious spatial composition perfectly imitating the character of a heavy, soft cloth. The forms of gentle, bowl-shaped arches of draperies are contrasted with folds and sharply, triangularly cut ridges. The roots of folds are chiselled almost graphically but without losing any of their spatial quality. The hems of the garments are finished with a sharp, straight edge 1,5 to 2 mm wide. A thin, incised line marks the gilded trimming of the coat and the robe and is 2 cm wide on the obverse and ca. 1,5 cm wide on the reverse of the cloth. The right side of the coat covers the central part of the statue with a crosswise cascade of bowl-shaped and triangular folds and both tails, slung over both forearms, create heavy, tubular festoons below. The left side of the cloak is hidden underneath this composition, hanging loosely in vertical, less elaborate folds. The complicated and diversified composition of draperies, despite obvious idealisation of forms, flows and falls in compliance with the law of gravitation, does not defy anatomy but emphasizes it integrally. The depth of folds and draperies is neither exaggerated nor detached from the body, providing a realistic effect (fig. 10, 11).

The veil and wimple with a coif, tightly wrapped around St Elisabeth's head, are carved in strong contrast to the heavy fabric of the cloak and robe.

<sup>29</sup> Janusz Skoczylas and Małgorzata Szczepaniak, "Znaki kamieniarskie interesującym obiektem badań interdyscyplinarnych," *Przegląd Geologiczny* 66, no. 6 (2018): 361–363.

Both fabrics are much “lighter” and carved softly. The veil, perfectly smooth on the top of the head, subtly spreads into radial, rhythmic creases that gradually gain volume to create cascades of tubular festoons at the face and a ruffle of tiny, wavy folds above the brow, which is now a heavily damaged part. The headscarf softly accentuates the shoulders, spreading over them in mild, flat, slanting folds, gently flowing forward (fig. 12). The edges of the head scarf weave sinuously, following the form of vertical folds. Its hem, just like in the case of the wimple and the coif, is finished with sharp, graphic notches 4 mm wide and ca 1,5 mm deep (fig. 13, 14). The notching is carved on both sides of the scarf, also in the places of difficult access, creating a zig-zag line in the cross-section. It only fades away on the back, where the stone was left unfinished. The rhythmically distributed folds, of lesser volume than other elements of attire, with the ends fully carved and cut deeply in their upper part, closer to the head, were elaborated as a shallow bas-relief. The whole surface of the head scarf is covered on both sides with a very fine chasing (grooving), made with a precise, serrated scraper ca. 1 cm wide and with the spacing of ca.1 mm – a feature characteristic of the sculptures of Bohemian Beautiful Style<sup>50</sup>. It starts at the top of the head with spiral strokes of the tool. Initially, the sets of lines slightly overlap, but further on the tract of chasing becomes more fluent an ordered. The spacing between the successive strokes is hardly noticeable, the grooving neatly follows the flow of folds in consistent, parallel lines. Only by looking very closely can one identify the spots where the tool broke away from the surface and the lines lose their continuity – the lines either start again or the tracks of two strokes of the tool overlap. What was achieved is a perfectly uniform, laterally grooved texture, discernible even in the tiniest creases of the fabric. The chasing loses its order and fades away only on the rear, smoothed part, where the veil covers the back (fig. 9).

Even more subtle measures were employed to elaborate the wimple and coif – here the relief is considerably shallower, but with clearly marked minute details of richly rippled, soft and thin fabric that closely wraps the Saint’s face, neck and bosom, gently accentuating the anatomy. The minute,

<sup>50</sup> Ivo Hlobil, “Gravierte Schleier von Madonnen und Vesperbildern. Ein autochthones Motiv des böhmischen Schönen Stils und seine religiöse Funktion,” *Umění* 66, no. 1–2 (2018): 2–35; Ivo Hlobil, “Grawerowany welon Marii jako autochtoniczny motyw czeskiego stylu pięknego. Dalsze badania,” in *Rzeźba kamienna*, 125–147; Jolanta Ratuszna, “Technika wykonania,” 82–87.

horizontal ripples and pleats are covered with equally neatly executed grooving, similar to the veil's texture but finer, shallower, and running along vertical lines spaced no more than 1 mm apart. The semi-circular edge of the coif framing the forehead is finished very precisely – the sculptor made a small, arched cavity just along the crumpled edge as if the fabric was drawn there to fit the convexity of the forehead and hold the coif tighter (fig. 15). This cavity too has a neatly executed grooving. This inconspicuous detail reveals the artist's remarkable attention to the tiniest detail. It makes this sculpture stand out among the sisterly Bohemian renderings preserved from the Teutonic legacy – St Elisabeth from Malbork and St Elisabeth from the Gdańsk St Elisabeth's retable.

The flesh parts – the face and the hands – were executed with high precision and in compliance with all the canons of the Beautiful Style<sup>31</sup>. The idealised countenance of a rounded oval with a high, rounded forehead glances gently with narrow almond-shaped eyes. Their inner corners are accentuated and the eyelids are well-defined and graphically cut. The meticulously shaped nose and small mouth with round, regularly cut lips are softly set above the gentle mound of the chin. The preserved hand is slender, and its elaboration renders well the softness or even plumpness of the flesh (the tiny dimples on the fingers are marked). Long fingers with gently pronounced knuckles and narrow nails with marked cuticles. For modelling the physiognomic details, the method of superficial drawing was also employed – the upper eyelids are brought up with thin, incised lines and the irises were originally tinted with graphite. The subtle cuts of tiny crescent mimic wrinkles at the outer eye corners imparting the Saint's countenance a serene look (fig. 16). Delicate cuts of wrinkles can also be noticed on the knuckles; and the cuticles are marked with a graphic fold of a very shallow relief.

Such crafted sculpture makes an almost ideal illustration of the 13<sup>th</sup>-century description of the canon of beauty put forward by Vitello in his work „On the optics”:

Also the shape constitutes beauty. Thus works of art well shaped seem beautiful [...]. The oval eyes, almond-shaped are beautiful, while round ones are very ugly. [...] Beauty is also created through fusion perception of many visible forms [...] ; paintings that are made according to certain proportion are more beautiful than

<sup>31</sup> Jakubek-Raczkowska and Czapska, *Bilde von Prage*, 32–33.

paintings and images that lack such order. Similarly, in the case of human face, since a round face of delicate, subtle colouring is more beautiful than the one possessing only one of those assets; little mouth with small, proportional lips is more beautiful than the same mouth but with thick lips<sup>32</sup>.

Attention to every detail can also be observed in elements that are almost invisible, such as the gold-trimmed tight cuffs of the sleeves of the robe, hidden behind the swathes of the cloak, or the soles of the pointy footwear, accentuated by two longitudinal cuts, or the aforementioned meticulously chased cavities of the folds of the head scarf. The bunch of grapes is carved relatively less volumetrically – each bunch is shaped as a separate, spherical relief form, tightly packed with individual grapes (fig. 17). The diamond-shaped *monila* (3 × 3 cm) (fig. 18) fastening the cloak is the simplest detail of the sculpture. Its sides are cut at right angles, 7 mm deep and it is half-covered by the curved hem of the wimple. It is devoid of any applique but bears traces of having been primed for gilding.

Using such an abundant variety of artistic expression and paying so much attention to every detail was also possible due to the natural properties of the stone in which the statue was carved<sup>33</sup>. The thickness of the rock, its structure, gentle layering, proportions of compounds (including the content of illite minerals), fine grain, low hardness, create perfect conditions for working. The stone – marlstone from the Prague quarry – is quite tractable. With proper skills, it can be easily carved in various directions. The fact that even slight moistening softens the surface – which could be observed during conservation treatment – enables working the tiniest details also with woodcarvers' methods – whittling, scraping, or chip carving<sup>34</sup>. Chisels made of mild steel were used to work the marlstone. The blades were

<sup>32</sup> Witelo, "Optyka," in Jan Białostocki, *Myśliciele, kronikarze i artyści o sztuce. Od starożytności do 1500 roku* (Gdańsk: słowo/obraz terytoria, 2001), 179–183, the quotation after translation from Latin into Polish by Władysław Tatarkiewicz.

<sup>33</sup> Like the other sculptures being the subject of examination within the project "Styl piękny w redakcji czeskiej w Prusach". See Bartz, "Materiał," 47–65.

<sup>34</sup> Regina Fleszarowa, Wiesław Koziński, and Irena Kardymowiczowa, *Kamień w służbie człowieka* (Warszawa: Wydawnictwo Geologiczne, 1956), 94. It is even evidenced to use of a carpenters' plane to work a soft Lublin opoka (similar to Golden opuka) and smoothing the surface with sandpaper, see: Roman Reinfuss, *Ludowa rzeźba kamienna w Polsce* (Wrocław: Ossolineum, 1989), 129. Another tool was a specifically stonemasons' plane (Pol. *równiak*), employed exclusively for smoothing soft stone in crafting architectural elements, see Jundrowský, *Kamieniarstwo*, 48.

thinner with a lesser angle of the cutting edge than in chisels used for working harder stones. This allowed driving the chisel at a small angle, which permitted gentle, sideways hewing of the surface<sup>35</sup>. Thus the stone could be easily worked with the most standard set of tools<sup>36</sup>. A pointed chisel was used for rough work, to remove excess material, to achieve the general shape of a statue and to establish the basic hollows. The toothed chisels, driven along particular planes, were used for levelling the roughness of initial tooling and for defining more precisely the desired shapes. The rock matter from the deepest hollows (the undercut edges, creases of garments, the inside of folds) was picked out with woodcarving gauges with rounded, more or less curved blades – faint marks of such tools can be seen in the hollow of the fold of the cloak under the right arm. Minute wood carving chisels were used to bring out individual grapes, which is evidenced by small, jagged cuts on their surfaces (fig. 17). Flat chisels of diverse size, width and blade-shape (straight or rounded as well as small, so called lettering ones) were employed for finishing the form, cutting sharp, thin edges, smoothing the hollows and for precise elaboration of details such as eyes, lips, fingers and fingernails but also for casual, quick cuts of expression lines or corrugation (fig. 13, 16). The tools must have been very sharp so that, handled expertly even the tiniest particles of material would not break away<sup>37</sup>. For gentle drilling along with the bow drill<sup>38</sup>, a thin chisel with a semi-circular blade and slight opening angle may have been used<sup>39</sup> – rotated between the palms, it was adequate for drilling corners of eyes or cavities of mouths<sup>40</sup>. Such chisels with broader blades were perfectly suited for finishing surfaces instead of flat chisels, so they were willingly used for picking out rounded hollows. Sharp gravers were employed for cutting grooves of garment trimmings and eyelids. Finally, a fine tooth chisel was used to cut precise grooves of the ribbed veil's texture and wimple (fig. 12, 15). The manner of surface treatment and the degree of precision could be additionally diversified and controlled with different sizes and hardness of chisels – various lengths of the handle, widths and beveling

<sup>35</sup> Peter Rockwell, *The Art of Stone Working: a Reference Guide* (Cambridge: Cambridge University Press, 1993), 17–19.

<sup>36</sup> Jundrowský, *Kamieniarstwo*, 46–48.

<sup>37</sup> Ratuszna, “Technika wykonania,” 82.

<sup>38</sup> Rockwell, *The Art of Stone*, 36.

<sup>39</sup> In the early period it was used instead of pointed chisels and drills, see Żuchowski, *Poskromienie materii*, 38.

<sup>40</sup> Rockwell, *The Art of Stone*, 37, 43, 60 (fig. 6).

of the blade and also the force of impact<sup>41</sup>. Finishing and smoothing of the surface was performed with the use of stones of various hardnesses and abrasive powders, such as corundum (emery), pumice, compact limestone, or sandstone, as well as rasps and files of diverse shapes (flat, curved, pointed, or rounded)<sup>42</sup>. Sharp, raking light exposes very faint minute longitudinal or slanting scratches left by grinding, mostly on the ridges of folds. The tiniest of them can even be seen on the nose. The areas of flesh – the face and the hands – as well as the bowl with grapes, the convexities of garments and drapes, and the shoes, have been polished smooth, probably wet with polishing powders.

A sculptor's set of necessary auxiliary accessories also included a wooden mallet, a wide-blade furrow chisel for working bigger planes for instance the base of the statue and measuring tools, such as calipers and compasses with curved, pointed arms for verifying the dimensions, proportions, and distances<sup>43</sup>. All this traditional equipment of the Medieval sculptor's workshop had been known since Antiquity and is essentially still in use today, complementary to modern mechanised methods.

As in the earlier tradition, sculpture in the late 14<sup>th</sup> and early 15<sup>th</sup> centuries achieved its complete, suggestive expression only after applying a coloured finish (most often enriched with gilding). In light of historic treatises concerning the practice of Medieval workshops, polychrome was not applied by sculptors. It was carried out by other craftsmen who specialised in polychrome and, as such, constituted a separate profession. Still it was sometimes the maker of the sculpture who was also responsible for polychromy<sup>44</sup>. The figure of St Elisabeth originally had coloured finish on all sides. Exposed in the past to harsh outdoor conditions and water, it is now almost entirely deprived of that finish, but the surviving remnants are undoubtedly the remainder of its original elaboration. Those remnants survived in the deep concave parts of the statue – in the hollows of folds of the robe and cloak (particularly under the sleeves), one can find some blues (fig. 4), and in the creases of the veil – the remains of white priming. The distinctly standing out

<sup>41</sup> Jack C. Rich, *The Materials and Methods of Sculpture* (New York: Dover Publications INC., 2016 – reprint. Originally published New York: Oxford University Press, 1947), 246–256.

<sup>42</sup> Rich, *The Materials*, 256.

<sup>43</sup> Jundrowský, *Kamieniarstwo*, 48.

<sup>44</sup> Ratuszna, „Technika wykonania,” 90; Jakubek-Raczkowska, „Rzeźby czeskiego stylu pięknego”, 105.

reds are the remnants of the underlay for gilding on the *monila* as well as on the trimmings of the robe and the cloak, locally speckled with tiny particles of gold (fig. 5). On the Saint's hand and face, there is a distinct, fine film of light-red flesh colour and the remnants of greyish faded priming. The eyes retained a faint outline of the iris and pupils marked with graphite. Examination revealed that the original polychromy applied to the stone (possibly sized first<sup>45</sup>), was probably multi-layered, with localised under-paintings. For example the underlay of the lead white enhanced luminosity of the upper layer of rosy flesh colour based on a mixture of iron oxide red, vermillion, lead white, vegetable black, chalk, and protein binder (casein or egg-white)<sup>46</sup>. The cloak's upper side was most probably originally white (lead white) and the lining was painted blue (azurite with lead white). The Saints' head scarf and gown were also probably white, however, the cuffs of the gown, *monila* and the ruffled hem of the veil were decorated with gold leaf like the trimmings of the cloak<sup>47</sup>. In the case of the grapes, an under-painting of iron oxide red and minimum was applied directly on the stone, and the green colour of the grapes was made with a mixture of blue copper (probably azurite) and lead-tin yellow<sup>48</sup>.

The idea of the complete colouring of the image of St Elisabeth from Gdańsk hospital is best exemplified by other stone sculptures of the Bohemian rendition of Beautiful Style<sup>49</sup>. Their polychrome finish captivates with unique subtlety, sophisticated colour schemes, and spectacular technique enlivening the matter. The dominant whiteness and cool shades are juxtaposed with delicate, warm tones of facial details or attire and finely accentuated with the glimmer of sparsely used gold. The purity of light flesh colour is emphasised with only slight touches of red on the lips (or on the

<sup>45</sup> Sizing the stone with oil or protein glue was to prepare the surface for the application of further layers of elaboration (gilding, priming, underpainting, polychrome). Cennino Cennini, among others, pointed out to the negative influence of moisture from the stone on the subsequent technological layers, see Cennino Cennini, *Rzecz o malarstwie*, transl. by Samuel Tyszkiewicz („Teksty źródłowe do dziejów teorii sztuki,” ed. Juliusz Starzyński, 3) (Wrocław 1955), 110; a detailed description of primers used in sculptures of Bohemian Beautiful Style and the literature see Ratuszna, “Technika wykonania,” 90–91.

<sup>46</sup> Ruszkowska, “Analiza reliktów,” 335–336.

<sup>47</sup> Ruszkowska, “Analiza reliktów,” 336.

<sup>48</sup> Ruszkowska, “Analiza reliktów,” 336.

<sup>49</sup> The research conducted within the project “Styl piękny w redakcji czeskiej w Prusach” revealed that the whole group of examined sculptures demonstrated a coherent colouring system. See Ratuszna, “Technika wykonania,” 89–99.

blood in Christ's wounds on *Pietas*<sup>50</sup>). This entire choice of measures: the colour scheme, material and technique enhanced the realism of the impact, hence contributing to the intensity of the artwork's perception. The polychrome, in fact, was not only a supplement to a sculpted form, but a separate artistic quality, deciding on the uniqueness of those sculptures<sup>51</sup>. Regarding technology, the binders and pigments used to execute the coloured finish belong to the palette of Medieval painting and continue the tradition of Antiquity<sup>52</sup>. Probably because of the price of the applied materials (e.g. gold, natural ultramarine, vermillion, organic reds, or malachite) the execution of polychromy was valued higher than carving a sculpture<sup>53</sup>.

### Summary

Working in soft marlstone, the sculptor (sculptors?) of the statue of St Elisabeth was proficient in making good use of all the advantages of the material that allowed to employ the whole range of means of artistic expression: from the deeply carved three-dimensional parts through bas-relief of varied depth to graphic elements of surface finish and perfectly smoothed details. This awareness of the material and technical dexterity in employing the range of stonemasons' tools goes hand in hand with exceptionally high artistic quality, which places the statue of St Elisabeth from Gdańsk hospital among the undeniable elite of the works of Bohemian beautiful style. As with the polychromy – rooted in the solid reliable workshop rules, employing costly ingredients, characterised by a subtle play of colours and spectacular technique – it must have originally been a significant contribution to the sculpted form.

Restoration works carried out on artworks that are also objects of historic craft always present a unique opportunity for detailed verification of the majority of information (both technical and artistic measures) concerning the makers and their workshop. The fact that at the same time or in the recent past conservation-restoration works were performed on several

<sup>50</sup> See *Rzeźba kamienna*, 263 (cat. no. 2), 281 (cat. no. 3), 345 (cat. no. 7), 391 (cat. no. 10).

<sup>51</sup> Ratuszna, "Technika wykonania," 89.

<sup>52</sup> In the examined group of sculptures as binders were identified both gluten glue and egg white as well as gums from fruit trees, casein and tempera binder, vegetable oil and natural resins. The colour was obtained by the use of mineral and earth pigments, such as azurite, malachite, vermillion, iron reds and yellows as well as man-made ones, like verdigris, lead white, lead-tin yellow, lead red and of vegetable and animal origin; Ratuszna, "Technika wykonania," 95.

<sup>53</sup> Max Doerner, *Materiały malarskie i ich zastosowanie* (Warszawa: Arkady, 1975), 266.

sculptures attributed to the same milieu – Christ in Gethsemane<sup>54</sup>, the statue of St Elisabeth from Malbork<sup>55</sup>, *Pieta* from Nowe Miasto Lubawskie<sup>56</sup> and the Gdańsk figure of St Elisabeth discussed here<sup>57</sup> – became an unprecedented opportunity to confront all the gathered observations and analyses. On the other hand – the convergence of conclusions gave the direction and energy to further research the whole representative group of artworks, extended by the complementary disciplines of science and knowledge. It confirmed the consistency of employed technologies and high quality of formal, compositional and stylistic solutions. The exceptional diligence of elaboration, precision and dexterity in using particular tools and certain repeating sculpting solutions also prompted the researchers to seek the features of the shared workshop attribution. On the other hand, a thorough study of nuances of form that break out of the shared scheme of accepted canons and repeated patterns and are manifested in the most subtle anatomical details, polished to the tiniest minutiae, allows one to grasp the individual and the only existing artist's "signature" (fig. 19).

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Translated by Joanna M. Arszyńska, proof-reading Catia Viegas Wesołowska

<sup>54</sup> Jolanta Ratuszna, “Dokumentacja prac konserwatorskich Chrystusa z Ogrójca,” conservation report, Malbork 2005, access: Documentation Department of the Castle Museum in Malbork, shelfmark MZM/KZR/278.

<sup>55</sup> Jolanta Ratuszna, “Dokumentacja prac konserwatorskich rzeźby św. Elżbiety z Turynii z l. 1380–1390 z kościoła św. Jana Chrzciciela w Malborku,” conservation report, Malbork 2012, access: Dział Dokumentacji MZM, shelfmark MZM/KZR/499; Jolanta Ratuszna, “Przebieg prac konserwatorskich oraz próba analizy techniki wykonania figury św. Elżbiety z Turynii z kościoła pw. św. Jana Chrzciciela w Malborku,” in *Święci orędownicy*, 171–178.

<sup>56</sup> Jolanta Ratuszna, “Dokumentacja prac konserwatorskich. Kamienna rzeźba z przedstawieniem Piety z ok. 1410 r.,” conservation report, Malbork 2020, available in Documentation Department of the Castle Museum in Malbork; Jolanta Ratuszna, “Problematyka konserwatorska-restauratorska Piety z Nowego Miasta Lubawskiego,” in *Rzeźba kamienna*, 203–219.

<sup>57</sup> Ślefarska, “Problematyka konserwatorska-restauratorska,” 221–232.



Fig. 1. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz. Photo: A. Z. Leszczyński: a–d, condition after conservation-restoration, 2020



Fig. 2. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, as currently displayed in the gallery of Medieval Art in the National Museum in Gdańsk, 2023. Photo: K. Ślefarska



Fig. 3. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz. Condition prior to conservation-restoration, 2007. Photo: J. Raczkowski



Fig. 4. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, remnants of polychrome in hollows of the garment. Condition during conservation treatment, 2019. Photo: K. Ślefarska



Fig. 5. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, condition during removing deposits from the original polychrome, 2020. Photo: C. Viegas Wesołowska



Fig. 6. National Museum in Gdańsk, *Pietà*, inv. no. MNG/SD/34/Rz, deposit in Our Lady's Basilica in Gdańsk. Photo: J. Raczkowski



a



b

Fig. 7. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, a–b: fragment of the bowl of grapes, location of the butted insert. Condition after conservation-restoration, 2020. Photo: J. Raczkowski, K. Ślefarska



Fig. 8. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, the rough-tooled back of the sculpture. Condition after conservation-restoration, 2020. Photo: K. Ślefarska



Fig. 9. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail of the back of the sculpture – unfinished hem of the veil, 2020. Photo: K. Ślefarska



Fig. 10. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, the arrangement of drapery at the front of the figure. Condition after conservation-restoration, 2020. Photo: K. Ślefarska

a



b



Fig. 11. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, the figure at the exhibition „Bilde von Prage”, Castle Museum in Malbork, 2020/2021  
a – left side, photo: J. Raczkowski, b – *en face*, photo: K. Ślefarska



Fig. 12. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, the arrangement of folds of the head scarf. Condition after conservation-restoration, 2020. Photo: K. Ślefarska



Fig. 13. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail of the tooling of the surface of the wimple and head scarf with a ruffled hem. Condition after conservation-restoration, 2020. Photo: K. Ślefarska



Fig. 14. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail of the texture of the tooled wimple. Condition after conservation-restoration, 2020. Photo: K. Ślefarska

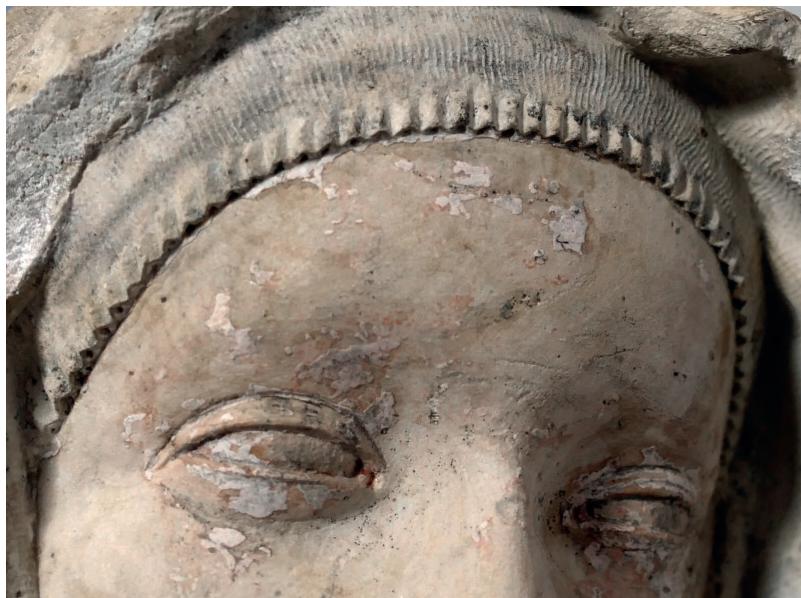


Fig. 15. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail of the tooling on the coif on the head of the figure. Condition after conservation-restoration, 2020. Photo: K. Ślefarska



Fig. 16. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail – the inlaid crescents of wrinkles. Condition after conservation-restoration, 2020. Photo: K. Ślefarska



Fig. 17. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail of the tooling of the grapes – visible marks of a "woodcarvers' tooling". Condition after conservation-restoration, 2020. Photo: K. Ślefarska

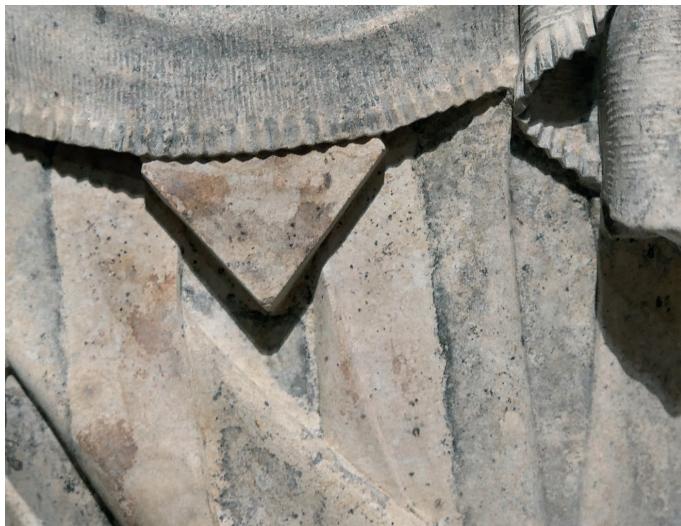


Fig. 18. National Museum in Gdańsk, St Elisabeth, inv. no. MNG/SD/2/Rz, detail, monila. Condition after conservation-restoration, 2020. Photo: J. Raczkowski



Fig. 19. The display of sculptures of Bohemian Beautiful Style at the exhibition „Bilde von Prague,” Castle Museum in Malbork, 2020/2021. Photo: K. Ślefarska

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