
EYES, NEURONS AND THE BRAIN

PERCEPTION OF HISTORICAL ARTWORKS IN THE WAY OF SANCTIFICATION

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Abstract

Developments in interdisciplinary research stemming from findings of Neuroscience leads to new research questions and a reconsideration of past issues. An example of such renewed research questions is the issue of artwork perception and its influence on the sanctification of an individual. In this article, I describe Tridentine decrees about artworks and study the case of the Late Baroque retablo of the main altar in the Holy Spirit Church in Toruń, as well as the Baroque retablo of the main altar in the Cathedral Basilica of the Assumption in Pelplin, Poland. The analysis pertains to visual equivalents in order to describe the perception process related to the retables. Basing on the analysis I evaluate which of the Council of Trent statements find justification in the discussed cases. I also intend to prove that the Council's participants rightly claimed that artworks can inspire one's own theological thoughts and thus influence the way of sanctification. The body engages in the process of visual perception, but one's involvement in sanctification is reinforced thanks to the artworks displaying more complicated formal artistic solutions than those promoted by the Council.

Keywords: neuroarthistory, history, culture, theology, art

1. Introduction

The consideration of issues brought about by the developments in interdisciplinary research as well as the findings of Neuroscience, led to new research questions. An example can be found in the issue of artwork perception and its influence on one's own sanctification, which according to the Catholic Church, is a process of deepening faith and perfecting moral attitude from birth to death in order to achieve salvation [1-3]. Art was the subject of six councils in the Church. Five of the councils - namely the Council of Chalcedon in 451, the Second Council in Trullo in 692, the Second Council of Nicaea in 787, the Fourth Council of Constantinople in 869-870, and the Council of Trent in 1545-1563 - all discussed the concept of 'imagines sacri', which means images or paintings of

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saints. The last council, the Second Vatican Council in 1962-1965 addressed the issue of 'ars' [2, 4, 5]. Since mid-sixteenth century until the Second Vatican Council, Tridentine regulations were commonly fulfilled in Europe in every generation, and some ways even longer. Post-Tridentine art has influenced people even after the Second Vatican Council. It appears in texts of culture such as specific forms of religiousness, the Marian devotion, or Baroque churches, paintings and sculptures that fulfil the Tridentine decrees [6].

The appreciation of Baroque art as visually interesting began with the development of art history methodology. The sense of fusion of many art forms was confirmed by Karl Friedrich Trahndorff (1782-1863) in 1827 [7] and Richard Wagner (1813-1883) in 1849 as *Gesamtkunstwerk*, which meant "total artwork" [8]. The matter of "the general aesthetic impression" (*der ästhetische Gesamteindruck*) obtained by combining many art forms in Baroque art received positive evaluation by Robert Dohme (1845-1893) in 1878 [9]. In 1888, Heinrich Wölfflin (1864-1945) characterized Baroque's feeling of form (*Formgefühl*) as "Lebensgefühl einer Epoche", which meant the epoch feeling [10]. He mentioned Wagner, and Friedrich Nietzsche (1844-1900) as proponents of the idea of the creation of endlessness, dissolution, intoxication and total impression (*Totalempfindung*), which can be interpreted as a complete, finished, and incredible artwork [9, 11]. In 1889, Cornelius Gurlitt (1850-1938) stated that Baroque interiors with their colours and light effects consist of an intimate fusion of all elements contributing to the effect of whole [9; 11, p. 172-243].

Taking into account the above points, the Baroque artworks should be analysed in the light of the reception of Tridentine documents, and a visual perception as a complex process of sensory registration and intellectual interpretation of an object, e.g. through the eyes, neurons and the brain. To this aim, we may employ a neuroarthistorical approach. Neuroarthistory is a part of Neuroscience that discusses the process of sensuous experience of art (through senses of sight, hearing, and in some cases, smell) [12-14]. In this approach the researchers draw attention to the hermeneutic circle that appears between the artist, the artwork and the recipient by enabling biofeedback research, diagnosing the canvas, and by indicating the role of mirror neurons in the shaping of one's activities. Moreover, neuroarthistory presents religious experience as induced by the context of the perception of a text of culture [12-14]. Neuroarthistorian research is a significant part of cultural studies. The field refers to findings of such researchers as Władysław Strzemiński (1893-1952) and his views on the theory of perceiving paintings [15], Rudolf Arnheim (1904-2007) with his idea on art and visual perception [16], John Onians (1942-) and the coinage of the term 'neuroarthistory' [12], Margaret Livingstone (1950-), who demonstrated the existence of correlation between artistic sensibility and human visual apparatus [17], and Łukasz Kędziora (1986-) with his proposal to approach research on visual equivalents of artworks with a transdisciplinary apparatus [13, 14]. Moreover, neuroarthistory considers the viability and variety of artistic activity in terms of sensuality and Psychology. In other words, it accentuates the sensual context of art's existence, namely its influence on people by means of eyes, ears,

and in some cases, tongue and skin, and later on neurons and the brain [13, p. 17-27].

According to Kędziora, the perceptual history of art is a part of neuroarthistory study, and forms a methodological offer achievable only by an interdisciplinary approach which can follow the process of sensual experience of artworks [13, p. 9-12]. My examination confirmed that neuroarthistory emphasizes artworks' viability and sensuality of artworks, along with the impact art has on people through eyes, neurons, and the brain [13, p. 9-12]. Moreover, I have used the interdisciplinary potential of neuroarthistory to develop the historical (especially the history of culture, art, the Church, and visual perception) and theological research about art and its potential to influence the way of sanctification, but also the theology of the body as an active participant in culture.

Thus, this article I present a broader version of research on the perception of the Holy Spirit Church in Toruń [18]. The analysis embraces the visual intake of a selected artwork, which is a late Baroque retable of the church's main altar, as well as Baroque retable of the main altar in the Cathedral Basilica of the Assumption in Pelplin, Poland. I utilize neuroarthistorical findings to evaluate the legitimacy of Tridentine decrees [2] about the influence of artworks on ones' own sanctification.

This article will first presents the resolutions of the Council of Trent on images of saints. Then, it describes Tridentine decrees about artworks and then characterize the case studies. I will study visual equivalents of the both retables to describe the process of their visual perception. Then, I am going to evaluate which of the Tridentine statements are justified for the case studies. I will prove that the Trent Council's participants rightly claimed that artworks can inspire one's theological thoughts and influence on the way of sanctification. The whole body (including eyes, brain, other elements of the neural system) engages in the process of visual perception, but one's involvement in sanctification is reinforced thanks to those artworks, which entails more complicated formal artistic solutions than those promoted by the Council.

2. Context - resolutions of the Council of Trent on images of saints

The Council of Trent's view on religious art is presented in the decree *De invocatione, veneratione et reliquiis sanctorum, et sacris imaginibus* [2]. The statement is a result of the Council's twenty-fifth session of December 3-4, 1563. The decree primarily includes suggestions regarding paintings and sculptures, and it orders that churches should display artworks presenting Jesus Christ, Mary the Mother of God, and other saints. The document especially encourages believers to create artworks related to Mariology and directs invocation and veneration to figures portrayed in artworks. The purpose of an artwork was presented as a *Biblia pauperum*: a communicative and simple source of knowledge about saints that was to be an impulse to increase devotion, as well as deepen faith and the improvement of moral life [2]. As we can read in the decree: "(a) great profit is derived from all sacred images, not only because

the people are thereby admonished of the benefits and gifts bestowed upon them by Christ, but also because the miracles which God has performed by means of the saints, and their salutary examples, are set before the eyes of the faithful; that so they may give God thanks for those things, may order their own lives and manners in imitation of the saints; and be excited to adore and love God, and cultivate piety” [2, p. 235].

The images content was to be based on the facts conveyed in Holy texts. The uneducated were to be lectured that although the image of God had been contained in a painting, in truth it cannot be visually familiar to human beings or expressed with colours and shapes. The Tridentine decree orders believers to avoid any unorthodox images from the perspective of the Roman Christian iconography, which would amount to false teachings; any images representing superstition, “nor celebration of the saints, and the visitation of relics be by any perverted into revellings and drunkenness” [2, p. 236]. The Tridentine decree encourages the removal of paintings that may invoke perverse, disturbing, impious, shameful, or morally disorganized (sinful) behaviour [2, p. 235-236].

The decisions made during the Council of Trent were completed by Catholic art theorists, mainly clergymen, such as Giovanni Andrea Gilio da Fabriano (?-1584), Johanness Molanus (1533-1585), Gabriele Paleotti (1522-1597), Antonio Possevino (1533/1544-1611), and Charles Borromeo (1538-1584). Their written comments on the decree *De invocatione, veneratione et reliquiis sanctorum, et sacris imaginibus* were popularized in Catholic countries, and their voices strongly influenced the development of post-Tridentine art. A good example here is the archbishop of Milan, Borromeo, who stated that both the authors of paintings and the caretakers of temples should be severely punished if they partake in presenting images based on heinous secular traditions, apocrypha, and other sources that could create confusion in people’s minds. Moreover, Borromeo bans representations of draft dogs, fish and another animals in religious paintings. As the only exception to the rule, Borromeo mentions the case in which the Roman Catholic Church Tradition indicates a different custom or when the image is to present the Host [18-21].

The discussion about images of saints found its way into debates present in the Polish-Lithuanian Commonwealth, i.e. during provincial and diocesan synods in the country. Their approach was presented in the 1621 *Uchwała Synodu Krakowskiego o malarstwie sakralnym* (Resolution of the Cracow Synod on Religious Painting) [22]. The reason to remove paintings from a temple was to be the immodest portrayal of saints: naked figures of Adam and Eve, Saint Anna painted among her three husbands, the Mother of God painted in an excessively secular dress, a scene of the Annunciation of the Virgin Mary with the baby Jesus descending from Heaven towards Mary’s womb, an image of immodestly dressed Mary Magdalene holding a cross or Mary Magdalene dressed in a colourful attire with ribbons and flowers in her hair. Moreover, the document forbade painting scenes never described in the Bible [18, 22].

The post-Tridentine discussion decided that, among other things, artistically sophisticated and richly adorned paintings draw the recipient's attention more to their form rather than to their theological content about the saints. Therefore, contemporary documents concluded that bizarre form accentuated at the expense of the content (*lo sforzato*) is of no use to achieve goals of religious art set by the Church, thus postulating the creation of paintings simple in form, realistic, and with a vivid narrative [18, 23].

3. Materials and method

Pointing to the role of post-Tridentine art in ones' sanctification, I have selected the decree *De invocatione, veneratione et reliquiis sanctorum, et sacris imaginibus* [2], Borromeo notes [21] and the *Resolution of the Cracow Synod on Religious Painting* [22] as reference points. The artworks analysed in this article are the retables of two selected churches. The first one is the main retable in the Holy Spirit Church in Toruń (Figure 1).



Figure 1. The presbytery of the Holy Spirit Church in Toruń.

The Church was designed for local evangelicals. Its Late Baroque main building was erected with intermissions in 1743-1756, while its Neo-Baroque Church tower was added in 1897-1899. After the Second World War, the Church was repossessed by the Society of Jesus (Jesuits) on May 24, 1945. The

Jesuits adapted the building to the Roman-Catholic Church liturgical requirements following Tridentine regulations. The current Church decoration reveals changes introduced after the liturgical reforms of the Second Vatican Council. The information about the retable creation is scarce. It is known that the retable was probably designed by Efraim Schröger (1727-1783). The four Evangelists figures were sculpted by Johann Anton Langenhahn Senior (1700-1757). The retable construction and placement works were completed in 1759. Some changes to the retable construction were made after the Church was taken over by the Catholics in the 1950s. In 1953, the base of the altar table was replaced with a Neo-Baroque altar table created by Bogusław Marschall (1921-1995). According to the liturgical reform after the Second Vatican Council, the altar table was moved from the retable toward God's people (*versus populi*). Moreover, a tabernacle and a stained glass piece were added to the retable (also by Marschall), which is situated in the window with tracery at the top of the altar. Originally, there was a Tetragrammaton (the Hebrew name of God transliterated into JHWH). The stained glass added after the Second World War presents a figure of Our Lady of the Gate of Dawn. Furthermore, there is a colored stained glass with a medallion and a Jesus Christ monogram in a window on the west wall, which constitutes the background to the altar [24, 25].

The second artwork I analyse is the retable of the Cathedral Basilica in Pelplin (Figure 2). It is the second biggest wooden retable in Europe (25 meters), first after the retable in the Cathedral of Saint Mary of the See in Seville, Spain (28 meters). The selected Church in Pelplin was founded in 1258, built as a brick gothic building, finished in 1323, and established a cathedral in 1824. Its main retable was founded by an abbot of a monastery in Pelplin Leonard II Rembowski (1585-1649), and created by an unknown artist in 1623-1624. The wooden gilded altar includes rich sculptural decorations, as well as the paintings such as *The Coronation of Mary* (1623) and *The Vision of Saint Bernard* (before 1625) by Herman Han (1574-1627/1628). In the lower area, there are relic repositories and a tabernacle. The side axes present niches with sculptures of Cistercian Apostles, patrons and angels. Furthermore, between the both Han's paintings, in a round cartouche, there is a form of the Hebrew Tetragrammaton YHWH, what stands for God's name. The figures of the angels, the symbols of the Christ's Passion, and the Risen Christ is exhibited at the top of the altar [26-28].

The selection of the Holy Spirit Church in Toruń for this article was dictated mainly by the fact that even though there were changes to the temple decoration, the building has several post-Tridentine Baroque elements, such as the retable. Second, the present Church interior may seem modest in contrary to other Baroque temples. Thanks to that modesty, there is no excess of potential ornaments that could distract from the main components of temple décor. Thus, it is easier for visitors to perceive Baroque elements, making the Holy Spirit Church well-suited for this study. Moreover, I also selected the Cathedral Basilica in Pelplin because it includes the post-Tridentine Baroque altar, but not as restrained as the retable in the Holy Spirit Church in Toruń. The aim is to

determine whether the more modest and richer version of baroque retable cause analogical perceptual processes.

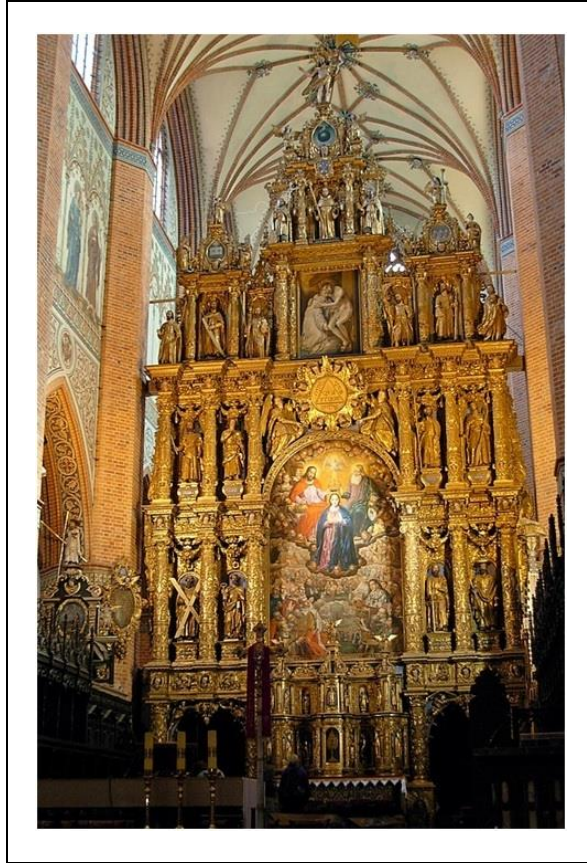


Figure 2. The main altar in the Cathedral Basilica of the Assumption in Pelplin (assessed by Wikimedia Commons).

The achieved insights are juxtaposed with the Tridentine thought in order to discuss to what extent it justifies the role of artworks in the way of sanctification.

4. The perception of the retable figures

The iconographic identification of figures of both the Evangelists figures in the Church in Toruń as well as the Apostles in the Church in Pelplin is characteristic to the reception of features with the relational type of stimuli. The identification is a spontaneous procedure in the recipient's mind in the form of a comparison with other already seen portrayals of Evangelists and Apostles. The viewers endowed with perceptual experience stemming from a previous contact with similar works by different painters will naturally have some knowledge of the history of art and history of culture. In their cases, the associative memory identifies the composition features of the output visual stimulus with a different,

already seen artworks whose memory trace is stored in their long-term memory [29]. Thus, the reception of the figures in Toruń and Pelplin is a double directing of the interpretation. In order for such an artwork to be fully read, the a viewer must not only receive a direct message about the presented genre scene or a figure's mimic, but must also tie it mentally with another painting and its creative transformation.

In a broader cultural context, the relational stimulus is typically enclosed in an artistic creation formed in reference to the Holy Bible and Tradition, both iconographic and Roman Catholic. Hence, the scrutinized retable in Toruń offers a relational stimulus of the four Evangelists presented with the use of their typical attributes: the lion, the ox, the eagle, and the human; while the retable in Pelplin offers a relational stimulus of the Apostles presented with their typical attributes, such as Saint Andrew's Cross, Saint Peter's keys of Heaven, and Saint Jacob's pilgrim hat. These stimuli invoke in the viewer a procedure of referencing to the already seen paintings and sculptures, but also the Holy Bible and Tradition, which - in this case - act as participating texts of culture. The relational stimuli are traditional artistic equivalents in the analysed figures. Thus, their identification should occur in the viewer as a simple double directing of interpretation: (1) toward the directly visible figures and their iconographic attributes, which come from the Bible and Tradition, (2) but also toward contents external to the Bible and Tradition.

Let me note that the determinations correspond to a theory created by Semir Zeki (1940-), who claims that the human mind tends to omit superfluous information about a stimulus to recognize it quicker, namely by first recognizing something as a face or a landscape and only then as specific person or landscape [30]. Therefore, simple and fast double decoding of the analysed sculptures reveals a trend of omitting surplus information and a quick recognition of pre-iconographic figures with their attributes followed by an iconographic interpretation of the whole set as the Evangelists (Toruń) or the Apostles (Pelplin).

Another neuroscientific finding essential for this discussion is the exaggerated stimulus that resides in the vertical elongation of the altars figures proportions, very characteristic of the Baroque era. Vilayanur Ramachandran (1951-) and William Hirstein (1966-) claim that the exaggerated stimulus is introduced to an artwork by the inclusion of unnatural deformations [31]. Such an exaggeration creates a superstimulus that can activate neurons. The viewer's receptive fields react to exaggerated forms, and the limbic system awakens. As a result, the viewer experiences aesthetic emotions. Thus, the exaggerated stimulus affects the perceptual-emotional system by drawing the viewer's attention to the relevant feature of an object or phenomenon, which provides an understanding of the in-picture action, and eventually makes it possible to fully grasp the artist's intention [18, 31]. When it comes to the Evangelists figures from the Holy Spirit Church in Toruń and Apostles figures from the Cathedral Basilica in Pelplin - like with many other Baroque sculptures - the viewer (sub)consciously notices the elongation. It draws their attention to the upward

alignment of the figures, introducing dynamism. Moreover, the elongation conveys the idea of spiritual vertical alignment of the figures, namely toward the sacred [31].

5. Perception of the retables - other formal features

One of the formal features of the both retable - except the detailed features of the saints figures - is the inclusion of distinctly highlighted vertical axes. In Toruń and Pelplin, there is a single main one in the middle and a set of side axes. In Toruń, four side vertical axes are determined by the four Evangelists figures and eight pillars are placed in pairs. The line of the main axis gives a symmetrical order for the whole retable by determining the positions of the tabernacle, the cross covered with cornice clouds with angel heads, the stained-glass portrait of the Holy Mary, the richly ornamented canopy with heavenly-angelological motives with a figure of the globe at the top. The vertical shaping of the retable is accentuated by the window located in the back of the presbytery, on the west wall of the building.

As it has already been mentioned, the vertical axes are also noticed in the retable of Pelplin. Similarly as in the case of Toruń, four side vertical axes are determined by the four rows of saints figures, however six lines of pillars are placed between them. The line of the main axis gives a symmetrical order for the whole retable by determining the positions of (1) the tabernacle; (2) *The Coronation of Mary* painting; (3) a round cartouche with a form of the Hebrew Tetragrammaton YHWH; (4) *The Vision of Saint Bernard* painting, (5) the figure of Saint Leonard (a patron of Leonard II Rembowski), in the company of two bishops: Saint Adalbert and Saint Stanisław; (6) the coat of arms of the Rembowski family; (7) the painting of the Hand of Divine Providence stretched out towards the Earthly globe; (8) a statue of the Risen Christ on the top of the altar.

The significance of vertical axes in the perception of visual art is discussed by Rodrigo Quian Quiroga and Carlos Pedreira who study the process of cognition and memory. They conducted an experiment on *The Baptism of Christ* painting (Figure 3) by Piero della Francesca (1415-1492) by showing two paintings on a 24-inch computer screen to ten recipients (six men and four women 23-34 years of age). Each painting was displayed to an individual recipient for one whole minute. The researchers presented the original painting by della Francesca and its digitally modified version in which the painting lost the symmetrical vertical axis of the original work [18, 32].

By employing an eye-tracker, Quiroga and Pedreira discovered that the recipients observed the original painting in a more regular manner than its modified version. When it comes to the original, viewers' eyes followed the painting accordingly to the symmetrical vertical axis. Moreover, the authors state that the average number of looks at the dove in reference to the average number of looks at all the composition elements was higher in the original piece than in its modified version, in which the dove appears on the right side. Thus, the participants looked at the dove less frequently when it had been removed

from the vertical axis of the painting. This conclusion is further confirmed by the fact that when the participants first approached the modified version, in most cases they tended to overlook the dove altogether. Usually, their eyes followed the vertical axis, so the authors surmised that the dove is a more visible element when it is a part of it, similarly to other formal elements constituting the symmetrical vertical axis [18, 32].

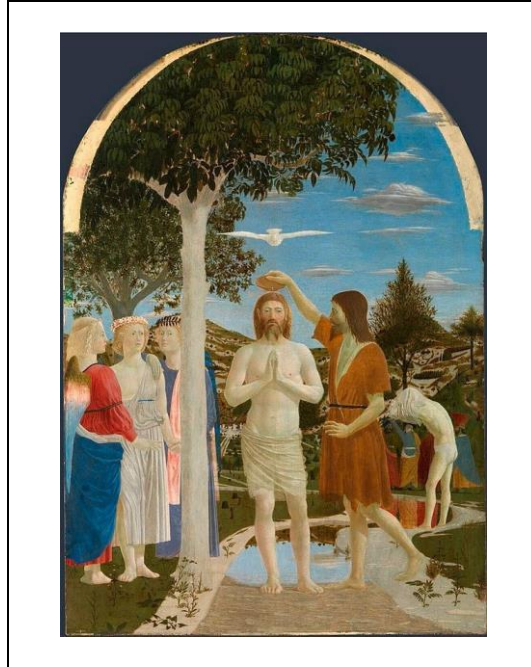


Figure 3. Piero della Francesca, *The Baptism of Christ*, 1440-1450
(accessed by Wikimedia Commons).

The above findings are useful in the analysis of the construction of the Holy Spirit Church in Toruń and the Cathedral Basilica in Pelplin retables. The relevant role of vertical axes is confirmed, especially the role of the main, middle axis. Jointly, the axes direct the line of looking at the retables from bottom to top and from top to bottom. While drawing the viewer's attention, this effect is amplified by the use of distinctly different, almost contrasting colours. In the selected Church in Toruń, there is noticed green, gold, blue, and red, which create structured colour spots: green at the bottom and the middle, gold encircling the red above, and the blue above the two other colours. Red seems to be a particularly significant colour as it is used for the canopy. By its distinct hue and placement on a three-dimensional dynamically painted imitation of drapery, red quickly attracts the viewers' eyes. By looking at the imitation of a curtain, the viewer can experience an artistically performed revelation of a heavenly mystery. In Catholic theology, 'revelation' comes from the Latin word *revelatio*, which means 'the opening of a veil'. The veil is a symbol of mystery that

contains the message of salvation, Heaven, God, Jesus Christ and Holy Spirit [33].

Also in the Cathedral Basilica in Pelplin, a significance of colours is noticeable in the context of a perception process. The retable seems to be gold, and the paintings show shades of ochre and brown, except for the elements of *The Coronation of Mary* and the Hand of Divine Providence. The both artworks use blue (*The Coronation* includes red as well), which contrasts with gold, strengthens the visibility of the main axis, and its power to attract the viewer's eyes.



Figure 4. Rembrandt van Rijn, *Philosopher in Meditation*, 1632
(accessed by Wikimedia Commons)

A further reason for the viewer's vertical observation of the both retables is the stained-glass window located directly behind the retables. Light enters through the window, and emphasizes the elements of the altars. The outcome is a three-dimensional effect of chiaroscuro. The importance of sunlight entering through the window and then through the stained glass is an adequate analogy to another study by Quiroga and Pedreira. They proved that objects accentuated by light are far better perceivable by viewers than other elements. Their research was conducted on the painting *Philosopher in Meditation* by Rembrandt van Rijn (1606-1669) (Figure 4). The authors showed the original painting and its modified digital version to a group of participants. In the modified version, they cut black background on the left and at the bottom of the artwork. By doing so, they achieved a far more homogenous image, meaning a brighter view with a less chiaroscuro contrast. As expected, the viewers focused more on the philosopher illuminated with sunrays in the original version [18, 32].

The experiment points to the significant role of chiaroscuro and contrast in the process of artwork perception, hence the importance of sunlight falling on the retable of the Holy Spirit Church in Toruń and the Cathedral Basilica in Pelplin. In the case of the first Church, the placement of a rectangular vertical stained glass in the background (facing west, so the light appears there in the afternoon and evening) supports the influence of vertical axes of the retable on the viewer, the main vertical axis being key. Moreover, the main axis highlights particularly one of the retable elements in particular, namely the cross with the image of Christ. Furthermore, the light from the window is scattered against the details the top part of the retable, which accentuates its iconographic elements: the stained-glass Our Lady of the Gate of Dawn and the golden rays. The latter draws the viewer's eye to the rays because of their sharp edges [18, 34].

An analogical point can be presented in the case of the analysed retable of Pelplin. A rectangular vertical stained glass located in the background on the east side lets the light in early in the morning, and supports the influence of the main vertical axes of the retable, which is higher than the other axes. In particular, it supports the visual correlates of the statue of the Risen Christ. The light from the window is shed at the statue, which emphasizes its theological content as Christ in glory.

To summarize, what seeks to catch the viewer's eye in the retables are the relational and exaggerating stimuli to create the saints figures, along with the vertical axes of the whole construction, as well as colour contrasts, and the use of three-dimensional chiaroscuro. Complex Baroque artworks cause quick and short eye movements in viewers by their dense form [34, p. 220-221]. This allows us to conclude that form influences the reception of the entire work; the viewer's gaze does not concentrate on one element only, which leads to the feeling that the reception itself is diverse and complex. These features result from the original - and different to modern art - eclectic connection of formal Baroque values of objects [34, p. 220-221; 7, p. 26; 8, p. 189; 9-11]. As illustrated by the Holy Spirit Church and the Cathedral Basilica retables, these features do not compete but 'befriend each other' to contribute to an artistically theological synthesis.

Both retables treated simultaneously as the wholes and the sets of details enable the viewer's participation in a complex theological reflection. By reading the retable of Toruń from bottom to top, the recipient explores the ideas of the mortal sphere and the human life in it (the human being is portrayed as the Evangelists and Jesus Christ), saved during the Paschal Triduum events (the Eucharist, the Passion and death of Christ) and in the resurrection. Then, when viewers look up (in a symbolic sign of hope), they can learn about eternal glory symbolized by the royal canopy, the golden rays, and the image of Mary added in the 1950s: the Mother of the Saviour and of all people, the one who was assumed into Heaven. (Notably, the mentioned stained glass was added following the dogma of the Assumption, which was announced on October 1, 1950 [Pope Pius XII, Apostolic Constitution *Munificentissimus Deus* Defining the Dogma of the Assumption, November 1, 1950, <https://www.vatican.va/>

content/pius-xii/en/apost_constitutions/documents/hf_p-xii_apc_19501101_munificentissimus-deus.html]. The motif of (Sun)rays appears in the Bible frequently. It is proof of the grace of God granted to people and a sign of participation in the glory of God, cf. Exodus 34.29, 30, 35; Numbers 6.25; Tobias 13.13; Psalms 34.6; Isaiah 59.9, 60.5; Ezekiel 1.4, 27. For the motif of Angel the servant and messenger of God, see Genesis 3.24, 22.11; Psalms 103.20; Matthew 18.10; Luke 1.11-26; Hebrews 1.14.) It is worth noting that the Heaven on the retable was prepared following Tridentine regulations, namely without images of God and Holy Spirit. Nevertheless, their presence is sensed through artistic symbols included there: the rays and angels the servants of God. At the top of the retable is the globe presented in glory of salvation: radiant, accompanied by angels, and surrounded with a symbolic laurel wreath as the sign of victory over evil. The globe at the top and the Evangelists of the mortal sphere at the bottom of the retable are components of the altar's composition. It may be viewed as a completion of theological thought that shows hope and faith in the salvation of people and the world, meaning their participation in the glory of God.

The apparent theological program is readable from the observation of the altar by following the main axis from top to bottom. Thus, the altar looks like an artistic message about God who created the world and people. The latter are saved to participate in Lord's glory through the Gospel (the Word of God) and the Eucharist as the Body of God [18].

An analogical theological reflection can be noticed in the context of the retable of Pelplin. Reading the retable from bottom to top brings about the exploration of the ideas of the mortal sphere and the human life in it. *The Coronation of Mary* suggests that a sanctification of the human is possible, wanted and praised. In the image, the sanctification means being in the presence of the saints and the Holy Trinity (the last one is showed unfollowing Tridentine regulations). The sanctification can be achieved through Christ's passion, as suggested by *The Vision of Saint Bernard*. Moreover, the sculpture of Risen Christ symbolizes eternal glory. Similar to the retable of Toruń, the Hand of Divine Providence stretched out towards the Earthly globe at the top and the saints of the mortal sphere at the bottom of the retable are both components of the altar composition. It proposes a theological thought about faith in the salvation of people.

By reading the retable of Pelplin from top to bottom, other theological point is presented. The altar shows an artistic message on Jesus Christ who saves people, emphasizes the Holy Mary as a pattern of holy life, and is present in the sacrament of the Eucharist.

6. Discussion - evaluation the legitimacy of Tridentine instructions

Based on my analysis of both selected retables, it can be assumed that some neuroarthistorian theories confirm the Tridentine thought on the perception of the artworks. The theory on omitting irrelevant information to recognize a form [30] confirms the validity of the Tridentine postulate to create simple communicative artistic images to portray saints [2, p. 232-236]. The

identification of attributes belonging to saints like the Evangelists and Apostles exemplifies fast equivalent recognition. Simultaneously, this confirmed the validity of Borromeo's permission to depict the images of only the animals present in the iconographic Church Tradition [19-21]. The findings of Piotr Przybysz and Piotr Markiewicz [29] on the impact of relational type stimulus confirm the validity of the Tridentine concept that figures presented in artworks should be portrayed in an orthodox manner [2, p. 232-236]. However, Ramachandran's and Hirstein's conclusions challenge the validity of Tridentine regulations on the creation of images in a simple and realistic form [31]. The authors determine that simple traditional sculptures and paintings with vivid narrative do not strongly influence the perceptual-emotional system of viewers. On the contrary, the images with an exaggerating stimulus - with an unnatural, odd form in analysed churches of Toruń and Pelplin - influence the viewers deeper than the ones with a simple form. Thus, it should be concluded that images enriched by unrealistic formal features, such as elongation, better fulfil Tridentine regulation on the influence of images. The regulation states that images of saints should first draw the viewers' attention, then they should become the source of wisdom about the saved souls, while simultaneously reminding people about the blessings granted by Christ as well as present a model to follow [2, p. 232-236; 18; 22; 35]. In other words, it can be said that their aim is to inspire humans to sanctification. In this context humans engage their body (including their neural equipment) to achieve a goal of salvation.

The empathy experienced by the observer while contemplating the figures of both retables deserves to be noted. António Damásio (1944-), stated that people tend to map on the neuronal level to map the corporeal postures when looking at artistic images. Therefore, the body position allows viewers to decode the emotional state of the protagonist of a painting and to simulate the same emotional state in their own mind. Consequently, the portrayed people appear as vivid as if they were present. Hence, the image makes an even greater impression [36]. The sense of presence in relation to heroes of the painting is particularly important in the case of the perception of those works of art which depict saints. The feeling of 'as if-presence' cooperates with the sense of the saints being present in the spiritual realm. As a result, it helps the viewer to be inspired by their lives, create a relationship with them, pray to them, choose them as patrons and helpers on the way to sanctification.

Damásio also believes that emotional processes can bias behaviour, particularly decision-making. The process can be enhanced by reinforcing stimuli - such as for example an artwork - that induce an associated physiological affective state [36, p. 70]. I conclude that the figures of saints and angels of the analysed retables can evoke emotions and, in a way, make themselves present within the spatio-temporal limits of the observer, and inspire his or her decisions. This point finds confirmation in the theory of mirror neurons, which argues that there are neurons that begin activity in the same parts of the brain in three situations: when performing a task, when only imagining performing the task, and when only looking at a different object performing the

task [37, 38]. Therefore, the role of mirror neurons is important in human faith. Even unaware of the functions of his or her body indicated above, at the neural level one becomes the recipient of the scenes seen in artwork. In the long run, on the level of subconscious and conscious choices, a person bases their decisions and other forms of faith-oriented action on the way of sanctification in the face of artistically presented scenes from the lives of saints and angels. It does not mean that human being is the recipient of deterministic influences. The actions of a person are, to a large extent, individual and independent. Nevertheless, they may result from neural activity along with the experienced affective state arising from the perception of a work of art.

Given that part of the recommendation of the Council of Trent can be considered justified in the light of neuroarthistorian research, it seems that the members of the Council of Trent [2, p. 232-236; cf. 22, 23] emerge as unaware neuroscientists. Their approach to mechanisms of perception taking place in the human body can correspond to the context of advanced modern medical and neuroarthistorical research of today.

Meanwhile, Baroque artists acted with advanced awareness similar to modern neuroscientists as the former shifted away from realism to much sophisticated forms. In the light of Quiroga and Pedreira [32], and Andrew Duchowski's [34, p. 220-221] findings, I claim that by using contrasts, axes, chiaroscuro, complicated structures, and sharp edges, artists caught the recipient's eye and engaged them in the process of the perception of their own works. The artist thus informed viewers about figures and motifs, along with their aesthetic, artistic, and theological contents. (Artists used their conscious, subconscious, and unconscious knowledge on visual perception and optics. They created works-visual stimuli to directly influence the viewer's cognitive apparatus. Suffice it to mention the case of Michelangelo Merisi da Caravaggio (1571-1610), whose skilful use of knowledge about optics and visual perception enabled him to create such painting composition that would lead the viewer's eye [39].) As Janusz Pasierb (1929-1993) argues, that never before the Baroque period did artist so consciously use formal means and style elements to graduate effects, feeling, and emotions in the viewer. By utilizing these artistic methods, they made chiaroscuro not only about colour scheme, but it became an iconographic motif in itself, brimming with theological contents [18, 40].

What is more, by the use of formal means, artists did not only expressed their approval or disapproval of the Tridentine regulation on images of the Creator (not to be expressed with colours and shapes) but also helped viewers experience God's presence. As a result, by means of their artistic activities, they contributed to the discussion on the influence of form on viewers. They also became the inspirers of theological reflections and actions based on their viewers' faith in their works. In this context, artists' influence on shaping the way of sanctification can be considered on a par or close with the influence of preachers or confessors.

The above mentioned elements of evaluation of the Tridentine instructions legitimacy are recognized in the context of a more modest baroque interior in the church in Toruń and the artistically rich interior of the Basilica in Pelplin.

Taking into account both retables, and basing on the conducted analysis, it can be observed that there is no difference in the general process of their perception. An observer engages his or her eyes, neurons and the brain to participate in the perception, like in the Rudolf Arnheim's concept of creative eye [41]. Arnheim believes that the artist and the viewer are co-creators of an artwork. Thanks to the sensory perception, the viewer can recognize an intra-image plot. Consequently, together with the artist, the recipient identifies the content of the artwork [13, p. 23; 42]. Beating this point in mind, it can be underlined that, also according to the Tridentine [2] and post-Tridentine instructions [19-23], the main goal of paintings and sculptures had to be the identification of the theological content of artworks, including the analysed retables, by both the artists and the viewers.

Moreover, the multitude of components of both analysed retables of Toruń and Pelplin is not chaotic. The multiple visual elements create a theological program and harmonize with one another in the process of perception. This point becomes a stimulus to highline the role of art and architecture in psychology and well-being [42], as well as conclude the role in the way of an individual's sanctification.

7. Conclusions

This article sought to reflect on the thought of the Council of Trent on the perception of images of saints by using selected neuroarthistory research findings. Analysing the main retablo of the Holy Spirit Church in Toruń (as the more modest one in terms of form) and the main retablo of Cathedral Basilica in Pelplin (as richer in form), I concluded that the Council rightly claimed that artworks can impact individuals. In the long run, they can inspire one's theological thoughts, and thus, influence the way of sanctification. Participating in visual perception, the body engages in the process of watching [13, 16, 17, 30-32, 34, 41], but one's deep involvement in experiencing the art work and implementing its ideas for sanctification becomes easier thanks to artworks which include more complicated formalities than those promoted by the Trent Council [2]. This point can be relevant for artists and Church administrators who will be engaged in the creation or adaptation of religious art. Moreover, this article may contribute to further practicing the neurotheology of culture by focusing on the people's participation in culture with bodies in the context of neuroarthistorical findings and theories, and in the context of faith.

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