

EWA NIESTOROWICZ

Maria Curie-Skłodowska University, Lublin
Institute of Fine Arts of the Faculty of Arts

Tactile Perception of a Bas-relief. Audio Description as a Means to Make Art Available to the Blind. A Case Study

SUMMARY

This article aims at answering the question whether a contextual information in the form of audio description, providing details of a given piece of art and its author, has an influence upon the level of recognisability and understanding of the studied piece. In other words, how the information about a piece of art (or its lack) influences perception and aesthetic evaluation of an art piece. The article discusses a problem of aesthetic competence in the mind of a person blind from birth. The focus of the research concerns perception of an art piece on base of a tactile study of a bas-relief (a copy of Józef Chełmoński's painting *Storks*).

Key words: the blind, language, audio description, art, art perception

Art has always been a part of the human nature as it expresses feelings, emotions and has the informative and communicative purposes. Today, when we are overwhelmed with visual messages, the usage of graphic symbols still plays an important role in social communication. It is worth considering, however, whether within the scope of the visual art there is a space for the visually impaired, or the blind.

Art undoubtedly carries a message for the recipient. This message has two functions: informative and aesthetic. However, the reception of the message depends on the mental and physical abilities of the recipient (Niestorowicz 2014). The same work of art will be perceived differently by somebody familiar with the artistic code than by somebody unfamiliar with the visual idiom of art (Hohensee-Ciszewska 1976), and yet differently by the blind recipient who needs to compensate for the lack of visual abilities by building a different path of deciphering the artistic code, i.e. by using different senses. The reception of the message will be

affected by how the reality is perceived by the blind without the use of sense of sight. Their emotions, sensitivity and intuition play a very important role as well.

At some point during my research on the perception of art in the blind and visually impaired, as well the sculpture classes for the blind, I often noticed the moment of awakening, the birth of aesthetic consciousness. However, this moment occurs only if the visually impaired and blind have access to three-dimensional art and effectively adapted two-dimensional art (such as spatial illustrations, or bas-relief instead of paintings), so that they can get to know and accept everything, which normally would be unattainable for them.

Works of plastic arts effectively adapted for the blind and visually impaired can undoubtedly carry the intended message. It is not an easy procedure as the tactile manner of understanding reality fundamentally differs from the visual perception. Tactile sensations in decoding art give a lot of unclear information throughout the process of successive perception of fragments of the whole unit. The tactile perception has the sequential character. Moreover, background, colour, perspective, the quality of light and shadow, the basic tools used by artists in two-dimensional art, are not present in the tactile perception (Niestorowicz 2014).

That act of addressing artistic proposals to the blind recipient poses a question as to how the work of art should be adapted so that the meaning stays comprehensible and clear.

Without any doubt, textual description of the work of art will prove to be helpful as the blind person will be able to create the meaning of the object that cannot be perceived in tactile manner. The language is one of most important intersubjective tools of communication (and perception) and to some extent it has the power of unifying the picture of reality (Grabias 2003).

Regardless of having different sensorial perception of the world, the blind are able to create images and are proficient at using the language. However, only part of the lexicon is fully equivalent to a given notion's image and meaning (Sękowska 1981). Hence, there occurs the category of surrogate meanings that refer to the concepts sensorially inaccessible and attempt to fill in the resultant perception gap.

As far as the content is concerned, T. Heller (Pielecki, Skrzetuska 1991; Sękowska 1982) distinguishes two types of surrogate meanings: those referring to spatial relationships which cannot be adequately, or easily perceived by the blind; and those referring to light and hue which cannot be adequately perceived by the blind in relation to reality.

In the process of creating surrogate meanings, the blind find analogies really helpful, for example, they associate hues with sound structures (Sękowska 1981), temperature, or even the texture of the materials. Despite this complex cognitive situation, it is definitely possible for a blind person to perceive art with the help of additional texts that describe works of art in Braille, or with the help

of audio descriptions, which more often accompany the exhibitions in galleries and museums.

Audio description is the text containing verbal description of the visual contents conveyed aurally through audio media whose purpose is to help the blind and visually impaired in the perception of the visual work of art such as paintings, graphics, films, theatre plays. More and more museums are adding audio description to their audio guides, making art accessible to the blind.

Audio description is a relatively young field as it was officially introduced in the 1980s in the United States (Adamowicz-Grzyb 2016, 160), but practically it has been present since the blind started having the content of visual arts described. The descriptions of works of art enable the blind to participate in the cultural life and are extremely helpful in the tactile perception of works of art such as sculpture and bas-relief. The descriptions are based on the “from basics to detail” notion so that a blind person can easily join the elements of the picture, or become familiar with historical aspects that take place on the stage, screen, or in the picture¹.

I do believe that sharing works of art with the blind should incorporate two elements: the tactile perception option, and the description of a work of art in the form of audio description, or in Braille.

The following article refers to aesthetic competence in the consciousness of the person born blind. The concept of the perception of the work of art in the tactile manner will be analysed in the article, and the bas-relief – a copy of Józef Chełmoński’s picture *Bociany* (Storks) – will be used as the research material. The bas-relief is a faithful reproduction of Chełmoński’s picture in a large scale as the process of tactile perception conducted on a small scale copy would be really difficult and even discouraging for the examined recipients.

The research will be conducted with the use of the opinion poll that will attempt to find the answers to the following questions: How is the bas-relief perceived with the use of tactile manner? Does the contextual knowledge (audio description) of the studied work of art and its author affect the extent of perception and the scope of understanding of this work of art? How does the information about the picture, or lack of this information, affect the reception and aesthetic evaluation of the picture?

TACTILE PERCEPTION OF BAS-RELIEF

The research proceedings will be submitted to the procedure that is divided into three stages. The research material will be presented in accordance with the following content points:

¹ <https://pl.wikipedia.org/wiki/Audiodeskrypcja>

1. The interpretation based on the blinds' individual experience – individual overview of the bas-relief.
2. Conceptualisation based on the information about the studied bas-relief as a work of art, the information is provided through audio description.
3. The aesthetic-emotional assessment – the interpretation of the bas-relief by the blind person based on the acquired knowledge.

In order to obtain the knowledge on the perception of the studied work of art, I apply the interview method. I carry out the conversation realizing the scenario based on the specific questions during each of the three stages of the interview.

The reason for this procedure is my attempt to establish the principles of the tactile perception and the conceptualization of the studied work of art. I also attempt to answer the question to what extent audio description affects the level of recognition and the scope of understanding of the analysed work of art. I also try to show the assessment of the bas-relief performed by the examined person. The whole study is complemented with the observation method, which, to some extent, allows the evaluation of the capabilities of tactile perception with respect to two-dimensional work.

1. Individual overview of the work of art performed by the blind person who at the end of the process entitles the analysed work. At this stage, perception is carried out with the use of induction, which is based on finding the elements against the background of the composition. Inductive analysis is carried out in the “from basics to detail” manner. The instruction in the first stage of the perception is as follows:

Please take a look at the bas-relief. This is the reproduction of the picture that shows part of rural reality. I will try to conduct the overview in such a way so that you can first see the events that make up the picture, determine their location in the picture plan, perceive the depth of space and the whole space, and entitle the picture. The questions at this stage refer to the content of the analysed work:

- *What does the picture depict?*
- *What title would you give to the picture?*

2. Conceptualization. The examined person is provided with the contextual information through **audio description** with respect to the work of art and its author. At this stage, the perception changes and it takes the form of deduction realized in the “from basics to detail” manner thanks to which the examined person recognizes the detailed elements of the reality depicted in the composition. Deductive synthesis allows one to find the criteria necessary for performing the task. The instruction at the second stage is as follows:

In the second part of the task, you are going to listen to the audio description in which you will be given the original title of the work. After that, the content

and the form of the work will be discussed. Then you will tell me if they reflect your overview. At this stage the questions refer to the content and the form of the analysed work:

- *How do you perceive the human figures?*
- *What are the persons doing?*
- *How many plans are there? (spaces in the picture)*
- *How far are the spaces from each other?*
- *What do you see on the further plans?*
- *What is the central point?*
- *How do you feel the movement of the figures?*
- *Can you find or imagine the colours I have mentioned in the description of the picture?*
- *Does this form of bas-relief appeal to you?*
- *What needs to be changed in the form of the analysed work so that it is more comprehensible?*
- *Has the audio description helped you in the overview of the analysed work?*
- *In what form would you like to perceive adapted works in museums/galleries? Would you like to work with only the bas-relief, only audio description, or both bas-relief and audio description?*

3. Aesthetically emotional connotation

The third stage of the study of the work of art is connected with its assessment. I reach the emotional states that the examined person experiences during the overview of the work. I also extract other than emotional axiological assessments, so I reach the author's system of values, especially his aesthetic values. The questions at this stage are as follows:

- *Do you like the picture?*
- *What emotions does it evoke during the overview?*
- *Do you find the picture original?*
- *Do you think that it makes sense to adapt works of painting in the form of bas-reliefs and exhibit them in museums and art galleries?*

THE EXAMINED BLIND PERSON'S PERCEPTION OF THE WORK OF ART

As it has been observed, the research confirms the thesis that the description of the studied work definitely provides a lot of information, is extremely helpful in the overview, and affects the process of shaping the scope of understating of the bas-relief.

Table 1. Blind person's perception of the work of art

Question	Communicative behaviour of the examined person	Remarks
1. Individual overview of the bas-relief carried out by a blind person		
What does the bas-relief depict, Mr Stanislaw?	<p>For sure, there are some figures here. I can feel the foot, here is the head, and here is the hand. This person is holding something, but I don't know what it is. It may be a pot...</p>	<p>Mr Stanislaw was born blind. He is a graduate of the Educational Centre for the Blind and Visually Impaired in Laski. At school he had a chance to encounter convex drawings prepared on the foil for the blind so he is familiar with two-dimensional depictions. However, Mr Stanislaw has never had a chance to encounter bas-reliefs, or other tyflographic adaptations for the blind in museums and art galleries, so he is very sceptical and full of doubts, claiming that he is unable to recognize anything.</p> <p>The examined analyses the bas-relief in the tactile manner. He recognizes particular parts of the body. If he has found one hand, he looks for the other one. The same concerns the legs.</p> <p>If the examined finds the hands and guesses that the person is holding some objects (and this is the case with Mr Stanislaw), I prompt him what the objects are because they are of a small scale that makes it difficult for a man with massive hands to recognize them properly.</p>
	Now I can feel that these are really double pots.	I explained it to Mr Stanislaw what double pots are and how they were used at the beginning of the 20 th century.
	So where is the second hand of this man? Here it is. Is it holding anything?	The examined is not sure what he has just encountered because the held spoon is definitely too small to be identified.
	Ok, so here are the double pots and in the right hand the man is holding a spoon.	The examined person carefully analyses the layout of the hands of the figure and localises how they are placed in the space, which layouts are on the right side, and which ones on the left side.

Table 1. Continued

<p>What do you think?</p>	<p>And here, I don't know what that is. Some kind of an outfit? Please feel it – I take the palm of the examined and shift it down the figure's outfit, such a long fabric. What can it be?</p>	<p>The examined touches the figure's outfit. On reflection, Mr Stanislaw recognizes the folds and creases on the man's outfit.</p>
	<p>And here is something else, but I can't recognize it. Maybe the second figure? So there are two figures in the picture.</p>	<p>Such remarks of the examined are frequent, however, after some time he accurately identifies the object, in this case – the second figure. The examined finds out that next to the first figure there is something else as well. He spends a lot of time examining the object with his palms.</p>
<p>And here where you are touching, what can it be?</p>	<p>At the bottom, is it some texture, or is it the ground? I don't know what is beneath the hand. For sure it is not grass, maybe some surrounding, maybe mountains that are located in the background? Definitely something rugged and rough.</p>	<p>Yes, this is how the author of the bas-relief tried to present the grass. Very good.</p>
	<p>Are the clouds here on top? Puffy clouds. So this is a landscape.</p>	<p>The examined is excellent at recognizing the space, and indeed there is the outline of the forest in the background that can be taken for the mountains. The examined analyses the upper part of the picture depicting the clouded sky. He recognizes the type of clouds (puffy) that he learned about during geography classes.</p>

Table 1. Continued

How would you entitle this picture?	I don't know, maybe <i>Breakfast on the Grass</i> ?	
2. Conceptualization (after reading the audio description to the examined)		
	<p>Oh yes. The storks are flying. The storks are flying in a v-formation. When I know they are there I am able to feel them.</p> <p>And the feet are dirty because the man probably walks barefoot.</p>	<p>I read the title to the examined and explain who Józef Chełmoński was and what he painted. Then I read the whole audio description.</p> <p>The examined person is surprised at the title, claiming that he has not noticed the storks (they are small and marked symbolically, they are flying in a v-formation in the upper part of the picture).</p> <p>While listening to the audio description, Mr Stanisław checks in the tactile manner all the details he hears. He makes remarks checking if the second figure, the boy, is really smaller, and if the boy is observing the flying storks. He manages to localise the boy's nose and guesses that the picture shows him in profile. The examined person also checks the posture of the man finding the face, nose, eyes, pepper-and-salt hair. He finds the hair but he doesn't know the term pepper-and-salt, so I explain it to him. The examined recognised the man's feet during the first stage, but he didn't know that they were dirty.</p> <p>While hearing about the creases of the fabric in both of the figures' clothes in the audio description, the examined person looks for the creases as he couldn't identify them before.</p> <p>I explain that Chełmoński was an artist who used sweeping brush strokes and the author of the bas-relief tried to show that painting technique in her adaptation.</p> <p>Indeed, it is very difficult to identify the oxen in the background, but once the examined person has been told where to look for these animals, he finds them easily. I also explain the rule of interposition that in this picture means that the animal in the background is partly covered by the animal in the foreground. Mr Stanisław tries to examine it carefully and admits he can feel the interposition with his fingers. The examined also feels the plough saying that a similar one was in his village.</p> <p>He also checks the background on the left side, trying to feel the string of cottages and the tree with the stork nest on it.</p>

Table 1. Continued

<p>Do you feel the spaces in the picture? How many spaces can you find in the picture? How far away are they from each other?</p>	<p>Thanks to your description and remarks, it's clear for me. At school we learnt that the objects get smaller if they move away, or an object that is closer covers the one which is farther away. I didn't have problems with that while examining this picture. Because this is the first time I've seen such a work, it is the matter of training and getting used to such things. The description is very helpful in the holistic overview, especially when it comes to finding the details that are difficult to find for the blind.</p>	
<p>What is the central point of the picture?</p>	<p>Definitely the sitting man is the central point of the picture.</p>	
<p>How do you perceive the human figures? What are they doing? Can you feel their movement?</p>	<p>The human figures were comprehensible for me at once, the description, however, helped me to determine their location and postures and the fact that they are looking at the storks. I think that if these figures are observing something, it must be the frozen posture.</p>	

Table 1. Continued

Do you find or imagine the colours that are used in the description of the picture?	The description definitely helps us to imagine colours, so it is good that they appear in the description. For example, light, or dark. We have our own ways of imagining colours but the description is very helpful.	
Do you like the bas-relief format?	I think that such a big format is definitely required because everything can be felt, even the smallest elements. This scale doesn't seem to be a problem for me.	
		While watching another bas-relief (a copy of another Chelmoński's picture called <i>Sheepdog</i>), Mr Stanislaw took more positive approach to the task. He guessed more conveniently, he precisely localised the figure and most of the details in the picture. He claimed that the second picture was much easier for him because he knew what to expect and became more skilful at tactile perception.
3. Aesthetically emotional connotation		
Do you like the bas-relief?	This is something totally new for me. The description definitely stimulated my imagination and it complemented the holistic perception of the work. This is a difficult but credible message, even though at the beginning I didn't believe that I would see anything.	

Table 1. Continued

<p>Do you think it makes sense to create such copies for the blind?</p>	<p>This form is completely new for me. It's a pity that such adaptations are not used on a larger scale so that we could get used to such works.</p>	
<p>What emotions did you feel while watching the work?</p>	<p>It was definitely something totally new for me. I liked it. For sure the description is very helpful because particular elements can be localised easily, or even the small-scale objects can be felt. It is very interesting when I know what to look for.</p>	
	<p>I also wanted to say that I admire the author of the bas-relief. It must be a real challenge to create something like that.</p>	

The contextual information on the studied work provided in the form of **audio description** definitely affects the type of tactile recognition, which is carried out through deduction – starting from the basics, the examined person gets to know the details of the composition.

As it has been mentioned before, the deductive synthesis is based on the “from the basics to detail” concept that allows one to find the criteria necessary for the recognition process. This, in turn, makes the whole process of recognition easier for the examined person because he knows what to look for. With the help of the description the examined person tries to locate special layouts of the figures and their surroundings, he is able to perceive the depth and the rules of perspective, or interposition², and it is easier for him to determine small details.

According to Mr Stanisław, the description is invaluablely helpful in the reception of the analysed work of art because even demanding aspects related to the perception of depth become clearer.

This research also raised the question to what extent two-dimensional art should be adapted. Should all the rules recommended by tyflopeditors³ be applied, including schematic, simplified adjustments, the rules of presentations in canonical perspective⁴, without interposition, or perspective in the required A4 format?⁵ If so, the question arises if the schematic presentations will resemble their originals visually, and to what extent they will get close to the original concept. Does it make sense to exhibit presentations that have little to do with their originals? This research shows that a blind person is capable of perceiving a faithful copy of the original painting in the form of a bas-relief.

The current research on the plastic development of the blind (see e.g.: D’Angiulli, Maggi 2003, 193–200; Kennedy 2003, 321–340; Kennedy, Juricevic 2003, 1059–1071; 2006, 73–93) shows that a blind student assisted by a teacher is able to discover the following: some of the rules associated with the two-dimensional presentation of objects that are in the accordance with the conventions of

² “Interposition means mutual covering of untransparent objects located in the background of the observed scene. The covered object is perceived as the one located further from the observer than the one which covers it”. The object which is in the closest proximity to the observer is seen in full, see: P. Francuz, 2013, *Imagia*, Lublin,

³ The use of the rules mentioned above is necessary in convex textile drawings created for visually impaired children. The basic rules of creating drawing for blind children are as follows: clarity, attractiveness, reliability, usefulness, safety, durability, appropriate size and hue contrast in the case of visually impaired people, see: E. Więckowska, 2008, *Nauczanie niewidomych dzieci rysunku*, Łaski, pp. 75–81.

⁴ Canonical perspective is based on depicting an object in its most typical view, for example, animals are most often depicted in profile, humans – *en face*, etc., see: P. Francuz, 2013, *Imagia*, Lublin.

⁵ This format is required as it can be fully embraced with hands and analysed in detail without losing the full picture.

visual perception, such as interposition (Szubielska, Niestorowicz 2013, 89–104); the fact that the objects located further from the observer are perceived as smaller (after: D’Angiulli, Maggi 2003, 193–200; Kirby, D’Angiulli 2011, 67–79). It proves that some rules associated with convergent perspective and depth indicators⁶ can be explained. The research also shows that the examined blind person undergoes the stages of plastic development typical of people who are not visually impaired, though in the case of the blind the process is more time-consuming (Szubielska, Niestorowicz 2013, 89–104).

I do believe that the blind should be provided with the faithfully copied and efficiently modified works of art. The modifications will be applied once they have been consulted with the blind, and equipped with audio or Braille descriptions. Undoubtedly the research on the subject matter will be continued on a much larger scale, so that the results could be used as guidelines for plastic art teachers, pedagogues and tyfopedagogues. The results of the research will be especially useful for artists and curators, as they will give the direction to presenting and adjusting art to the people with different sensory reception.

BIBLIOGRAPHY

- Adamowicz-Grzyb, G., 2016, *Tłumaczenia filmowe w praktyce*, Warszawa, 160.
- Chojcecka, A., Magner, M., Szwedowska, E., Więckowska, E., 2008, *Nauczanie niewidomych dzieci rysunku*, Łaski, 75–80.
- Czerwińska, K., 2008, *Rysunek wypukły jako pomoc dydaktyczna w nauczaniu języków obcych – doniesienia z badań*, [in:] *Adaptacja pomocy w nauce języków obcych osób niewidomych i słabowidzących*, red. K. Czerwińska, Warszawa, 36–41.
- D’Angiulli, A., Maggi, S., 2003, *Development of Drawing Abilities in a Distinct Population: Depiction of Perceptual Principles by Three Children with Congenital Total Blindness*, “International Journal of Behavioral Development”, 27, 193–200.
- Francuz, P., 2013, *Imagia. W kierunku neurokognitywnej teorii obrazu*, Lublin.
- Grabias, S., 2003, *Język w zachowaniach społecznych*, Lublin.
- Hohensee-Ciszewska, H., 1976, *Podstawy wiedzy o sztukach plastycznych*, Warszawa.
- Kennedy, J.M., 1993, *Drawing and the Blind: Pictures to Touch*, New Haven.
- Kennedy, J.M., 2003, *Drawings from Gaia, a blind girl*, “Perception”, 32, 321–340.
- Kennedy, J.M., Juricevic, I., 2003, *Haptics and Projection: Drawings by Tracy, a Blind Adult*, “Perception”, 32, 1059–1071.
- Kennedy, J.M., Juricevic, I., 2006, *Blind Man Draws Using Diminution in Three Dimensions*, “Psychonomic Bulletin & Review”, 13, 506–509.

⁶ The tool known as transograph that is helpful in explaining the definition of orthographic projection and perspective to the blind. It has been designed by the outstanding tyfopedagogue prof. B. Marek, see: B. Marek, 1997, *Before a Blind Child Can Read a Map. First Steps in Tactile Graphics*. Paper presented at 10. World ICEVI Conference, São Paulo, Brasil, 03–08.08.1997, and A. Piskorska, T. Krzeszowski, B. Marek, 2008, *Uczeń z dysfunkcją wzroku na lekcji angielskiego. Wskazówki metodyczne dla nauczycieli*, Warszawa.

- Kirby, M., D'Angiulli, A., 2011, *From Inclusion to Creativity Through Haptic Drawing: Unleashing the "Untouched" in Educational Contexts*, "The Open Education Journal", 4 (Suppl. 1), 67–79.
- Marek B., 1997, *Before a Blind Child Can Read a Map. First Steps in Tactile Graphics*. Paper presented at 10. World ICEVI Conference, São Paulo, Brasil, 03–08.08.1997.
- Marek, B., 2000, *Does a Stone Look the Way It Feels? Introducing Tactile Graphics, Spatial Relations and Visual Concepts to Congenitally Blind Children*, [in:] *Paper presented at the European ICEVI Conference*, Cracow 9–13 July.
- Niestorowicz, E., 2007, *Świat w umyśle i rzeźbie osób głuchoniewidomych*, Lublin.
- Niestorowicz, E., 2012, *Komunikat wizualny w twórczości osób głuchoniewidomych*, [in:] *Komunikacja wizualna*, red. P. Francuz, Warszawa, 269–297.
- Niestorowicz, E., 2014, *Ilustracja przestrzenna dla osób z dysfunkcją wzroku*, [in:] *Interpretacje i inspiracje dla edukacji artystycznej*, red. A. Mazur, R. Tarasiuk, Lublin.
- Pielecki, A., Skrzetuska, E., 1991, *Nauczanie niedowidzących w klasach 4–8*, Warszawa.
- Piskorska, A., Krzeszowski, T., Marek, B., 2008, *Uczeń z dysfunkcją wzroku na lekcji angielskiego. Wskazówki metodyczne dla nauczycieli*, Warszawa.
- Szubielska, M., Niestorowicz, E., 2013, *Twórczość plastyczna jako forma wspierania rozwoju osób niewidomych i głuchoniewidomych*, [in:] *Rozwój i jego wspieranie w perspektywie rehabilitacji i resocjalizacji*, red. A. Sobczak, Łódź, 89–104.
- Sękowska, Z., 1982, *Pedagogika specjalna – zarys*, Warszawa.
- Sękowska, Z., 1981, *Tyflopedagogika*, Warszawa, 79.
- Więckowska, E., 2008, *Nauczanie niewidomych dzieci rysunku*, Laski, 75–81.