The analysis of associative properties of the »Fishpond Flush« pattern

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The aim of the research was to establish associations stirred by the »Fishpond Flush« pattern created by the Swedish designer Hanna Werning. The goal of the paper was therefore to see how the different colours and shapes affect the artistic structure of the work of art in question, the »Fishpond Flush« pattern, in the optical sense as well as on the content-related, meaning-related, and symbolic level. Thus the aim of the research was also to establish how associations are caused by the artistic matter from the point of view of meaning-related dimensions and artistic conceptualization, how the artistic elements like colour and shape affect the perception of artistic syntax, and also to prove that colour and shape are the essential factors in the perception of artistic matter. Another purpose of the research was to establish whether the perception of the pattern is gender-specific. It has been determined that the optical effect of the patterns stirs many, varied associations. The analysis also reveals that colour is the most significant factor influencing the perception of the »Fishpond Flush« pattern and that the dimensions of meaning of the internal structures of shape significantly effect the overall optical effect of the artistic matter. Further analysis of the results also showed that there are some statistically significant differences in how men and women perceive the pattern.

***Key words**: associativity, semantic dimensions, visual field, visual perception, pattern.*

1. Introduction

»The way we see things is conditioned by what we know or believe about them. « [1]

When we observe the environment or space and objects, we don't perceive only individual forms, which are one of the essential characteristics of things, but at the same time, we also perceive their properties, for example, size, colour, structure and the whole environment in which they are located. The forms we see are the main data transmitters with their structural characteristics. The perception is, therefore: »A complex psychic phenomenon, formed by a greater number of feelings. Of course, the detection or perception can't be reduced to the elements that composed it, but it means a special experiential reality or quality.« Detection is: »the psychic process of a relatively comprehensive sensory perception of objects and relationships between them. Human knowledge, consciousness, activity, and existence in general - all this strongly depends on perception and observation.« [2] Rudolf Arnheim concludes that perception actually

means thinking because all the mental processes that exist are in relation to perception and he says: »Visual perception is visual thinking.« [3] Muhovič, who deals with the notion of perception from different perspectives, says: »The way we perceive things is called (a) perception, and the mode of reflected operation with the perceived, logic. Perception is the quality of the human perception of the world, and the logic is a cognitive skill that sensibly incorporates the results of perceptions into the acquisition of new insights about the world.« [4] Trstenjak defines human as a mixture of spiritual and material, which he perceives as a subject thinking and over the subject thinking: »A human rises through the subject matter thinking also over a matter of point; exceeds »self«, it is a transcendent being. When we talk about the intentionality or object orientation of symbolic thinking, we remain unintentionally in the framework of perceptions and »perceptual thinking«. Through this, human is mostly confronted with only the representative, imaginative and top of it in abstract logical thinking. The objectivity is not always obvious; in some cases and in some stages, we can no longer talk about the right subject thinking.« [5] When observing the environment, a person must be able to constantly change his attitude towards things if he wants to perceive the environment comprehensively. This can only be achieved through constant changes in perception that transform its course of thinking and reasoning. Only from a sensible, subject thinking goes to the abstract, symbolic, and vice versa. Some of the changing perceptive states are also associative processes and experiences.

Fig.1 Hanna Werning: »Fishpond Flush«. [7]

»Associations are in the general sense of the word functional relationship between mental content or word-actor acts.« [6] Psychologists associations define as internal and external incentives, that is, as relationships between different mental contents or performances and as reactions to environmental stimuli. Already Aristotle has established three types of association formation - by contact, similarity, and dissimilarity. According to the law of contact, some physical or mental stimulus is supposed to rebuild some other memory if they have appeared together in the past. According to the law of similarity, a mental event is supposed to recall the memory of another similar event. The law of dissimilarity associativity arises when a mental process triggers a memory of events, which, on the contrary, is, for example, a sad event overtakes happy memories. The interpretation of associations was also influenced by the Gestalt psychology, which presupposes that human acts as a whole and that his association, therefore, appears according to the law of complementing the beginnings of the whole.

In general, we distinguish two types of associations: free and related associations. Free associations are triggered only on the basis of associative laws, while related associations are controlled or guided by instructions. Associative links are generally conditioned by the social and cultural environment, the age and the life situations of individuals, varying, for example, by sex, in various occupations, in family relationships, and others. Psychologists use experimental and practical purposes numerous verbal tests of word and image associations. On the basis of the frequencies of associative responses, however, it is possible to determine the strength of associations which are triggered by certain concepts and specific semantic structures of concepts in selected experimental groups [6].

In the study, the association of the »Fishpond Flush« pattern (Fig.1) of the Swedish designer Hanna Werning, who is involved in the design of textiles for interiors of international commodity companies and unique motifs for fashion brands, was established. The texture pattern »Fishpond Flush« is the motive it has designed for the Eastpak brand. Werning dis-

covered the textile design already during the study of graphic design when she learned to print through a screen printing technique and consisted of recurring motifs instead of one-off prints. »I have always had a fascination for patterns, whether it is a natural pattern of wood or something more made-up and decorative.« She also explains her designer's work in a poetic way: »Textiles are an interesting media to work with because they are soft and easy to mould. They follow the body of an object so nicely. I also find them interesting they make it easy to create temporary changes in the environment, whether they are mounted on scaffolding in the city or made into a cover for a bed.« As Bradley Quinn says, nature has been a constant source of inspiration for Hanna Werning, who maintains an ongoing dialogue with the natural word in her work. Her representations of animals, plant life and the landscape are drawn in fluid, organic lines, and characterized by spontaneous juxtapositions of flora and fauna. »Motifs that depict nature will never go out of fashion, and they will stay with us even if technical development becomes more popular,« explains Werning, who also said about her work: »My prints reflect the world I in live today. To me, the world is like a big patchwork of different cultures, and sometimes I see my own work as a big visual collage... « [7]

2. Methods

2.1. Definition of the problem and objectives of the research

The objectives of the research are defined in several layers. The fundamental research problem of the research is to determine the influence of different colours and shapes on the effect of the artistic structure of the artwork - the »Fishpond Flush« pattern - in the optical sense and in terms of content, meaning and symbolic level. Consequently, the aim of the research is to determine the association of the artwork from the point of view of the semantic dimensions and the artistic conceptualization and the influence of the artistic elements, in particular the colour and the form, on the perception of the artistic syntax, and to prove that colour and form are essential factors which influence the perception of fine art. The purpose of the study was also to determine whether there are differences in the perception of the image field by gender.

2.2. Hypotheses

Before carrying out the quantitative part of the research, the following hypotheses were set:
H1: There are gender differences in the assessment of semantic dimensions.
H2: Colour is an essential factor that influences the effects of art structures in the optical sense and on the content, meaning and symbolic level.
H3: The semantic dimensions of the internal structure of the shape have a significant influence on the optics effect of the entire artwork.

2.3. Sample and subjects of the research

The aesthetic judgments were given by 199 subjects who participated in the research to assess the »Fishpond Flush« pattern. The sample covers the age of participants from 15 to 22 years and the mean value of their age is 17.7. It is clear from Tab.1 that 66.8% of women and 33.2% of male participants gave value judgments. The demographic data of the permanent residents of respondents cover the territory of the whole of Slovenia. As the participants did not answer a particular question, the statistical analysis takes into account the average of the judgments given in terms of the number of answers. The number of judgments given is thus not always the same or is lower than the total number of participants.

Tab.1 Participants in research that gave judgments for the »Fishpond Flush« pattern by gender

Participants	Frequency	%
FEMALE	133	66,8
MALE	66	33,2
Total	199	100

2.4. Procedure for collecting data

The respondents of the research participated in the classroom or study lessons. They received the Assessment Aesthetic and Value Assessment Questionnaire with an image of the artwork - the »Fishpond Flush« pattern. According to the joint guidelines for evaluating the image template, they individually fulfilled the evaluation questionnaire.

2.5. The instruments

We used the survey method for researching the semantic dimensions of shapes and colours. For the purpose of this empirical research, the author's instrument has been structured. Aesthetics and value judgment questionnaire, covering the author's rating scale. This instrument combines the psychological and visual dimensions of the elements that are present both in different areas of design (for example, graphic design and textile design) as well as painting. Participants in the research presented their aesthetic judgments of various artistic proposals and associations on them and evaluated them on the basis of different semantic dimensions on a 7-point scale (from -3 to +3). Demographic data of respondents include the name (or code), gender, age, education level, occupation and employment [8].
The questionnaire evaluates aesthetic judgments about the »Fishpond Flush« pattern and measures associations that this artwork gives. Respondents also evaluated their judgments and associations on the basis of different semantic dimensions on a 7-point scale. The semantic dimensions included in the questionnaire are presented in Tab.2.
In addition to the evaluation of semantic dimensions, further questions are also integrated with judgments about the perception and assessment

Tab.2 Semantic dimensions on the basis of which the respondents evaluated the »Fishpond Flush« pattern

SEMANTIC DIMENSIONS	
Dimension 1	uncomfortable - pleasant
Dimension 2	passive - active
Dimension 3	ugly - beautiful
Dimension 4	calming - exciting
Dimension 5	unstimulative - stimulating
Dimension 6	modestly - luxurious
Dimension 7	weak - strong
Dimension 8	inhibitory - accelerating
Dimension 9	simple - complex
Dimension 10	poor - rich
Dimension 11	calmly - lively
Dimension 12	negative - positive

of art syntax and comments by respondents according to the judgments given. Questions end with allegations of the most decisive influence on the evaluation of the image template as more or less appealing artwork: colours, lines, shapes, the structure of the picture or a whole [8].

2.6. Data processing operations

Primary data was edited by ranking responses and statistically processed. For statistical processing, the methods of basic descriptive statistics (f, f%, M, SD) and inferential statistics ($\chi 2$ - test) were used. Data were processed in the Microsoft Office Excel 2007 and SPSS 16.0 software.

3. Results and discussion of the research

3.1. The association of the »Fishpond Flush« pattern

Art material »Fishpond Flush« structures silhouettes of stylized floral and animal motifs. Gently corrugated, rounded shapes and lines of images are intertwined. When observing the plant-animal motif, the counterpoints of the figure and the background is perceived, because of the shape or contours of the plants, despite the size and, in some cases, the greater colour power, determine less association to familiar objects and things from the environment. Also, space, which can be detected according to the theoretical criteria, is a shallow, expressed mainly by overlapping of shapes. In the process of observing the optical impression, the spectator is constantly returning to »search« and viewing animal motifs, which at first glance attract more attention of the viewer, even though they are overlapped by other forms. The linear floral motifs of grasses and composite flowers create the impression of gentle movement that establishes the illusion of overflowing and waves of chaotically overflowing ponds, as the title of the pattern tells us. The structure of the optical impression is characterized by pastel colours, that is, colours that are mixed with white. Colours that no longer have chromatic power, also have a weaker colour symbolism. Often their symbolic meaning is even changed. In the case of the visual field »Fishpond Flush«, such a change in colour symbolism is certainly the most obvious in the case of red and its light tint, which appears in this artistic syntax as an all-encompassing pink background. Red, which is, among other things, the colour of activity, life, power, both positive and negative, in this case, it passes into the colour of tenderness, and this is most strongly marked by the optical impression. The predominant colour scale of this motif is, therefore, ranging from a light pink background through various strongly expressed shades of this colour, which are mainly reflected in detail, to a strongly red one. Interesting is the fact that psychologists and colour theorists mostly defined pink as the light shade of red or magenta red. Magenta red, however, moves slightly towards the area of violet colour. »Pink due to the white content is less exciting, aggressive and screaming than red. We still perceive it as a warm colour. In our culture, pink colour represents childish innocence, femininity, emotion,

Tab.3 Categories of semantic associations that were submitted by respondents in connection with »Fishpond Flush« pattern

The association of the »Fishpond Flush« pattern	
Category 1	ANIMALS
Category 2	NATURE, SEASONS
Category 3	ART, COLOURS, FORMS
Category 4	PATTERN AND ORNAMENT, TEXTILES
Category 5	SIMPLICITY, CALMNESS, CONNECTIVITY, HARMONY
Category 6	LIFE, POSITIVITY, WARM
Category 7	LIVELY, ACTIVITY, INTERESTING
Category 8	TENDERNESS, CHILDISHNESS, FEMININITY
Category 9	FANTASY, CHEAPNESS, TRIVIALITY, UNNATURALNESS, EXPRESSIONLESS

love, beauty, kindness, compassion, softness, tenderness and romance. In negative terms, the pink colour contains connotations of excessive sensitivity, femininity, sweetness, and kitsch.« [9] The motif is complemented by stylized forms of white and blue, but above all of the various green shades. Anton Trstenjak defines the green colour, its formation and its effect as balancing the opposing forces of yellow and blue. »In this way, the forces of the force counterbalance in the green and balance in this equilibrium. The green colour at the time turns out to be the living possibility of a new activity, which means - purely psychological - hope for a new activity and life. Green means virtually complete calm, in which all contrasts are balanced.« [10] From the point of view of psychological-symbolic applications, Asja Nina Kovačev believes that the green colour coincides with the mean value on most semantic dimensions.

»We place it on the intermediate position between the near and far, hot and cold, active and passive, heavy and light, the front and back, the male and the female, and the spiritual and the material.« [11]

The respondents gave more than 290 different semantic associations with their variations for the visual field »Fishpond Flush«, which we classified into nine categories (Tab.3). The associative nature of the pattern is predominantly positive, but there were also some negative semantic connections that were classified only in the last, the category nine.

»I like it because it reminds me on nature, shows animals, delicate fish and a nice parrot. It reminds me on something magical, happy, warm, to an experience that you would never forget. The magical dreams you dream at night and wake up all the smiling, good wills that make you all day long. The picture also shows stars that calm everyone, and delicate ridged lines. Even the colours with which the picture is made are gentle, warm, reminiscent of a warm spring morning with a gentle breath of the wind. The picture is alive, showing animals as well as plants, because our imagination can also see olive leaves and takes us to the warm Mediterranean.« Thus one of the participating women described her experience of the pattern in her commentary [8].

The association of the pattern is emphasize oriented towards the mimetics of the visual field. The most associations refer to what the respondents could actually infer from the pattern, i.e. animals and elements from nature. The category of ANIMALS it is the first of the nine categories that we have placed in the semantic structure of the pattern. The answers in this category are homogeneous and describe the illustrative nature of the image. In particular, the respondents have associated artwork with fish, various birds and animals in general, but it is interesting that the image template was also associated with the animals that are not on the picture, for example, peacock, zebra, butterfly and others.

Category NATURE, SEASONS is by the number of different associations and by the number of answers the most extensive among all categories covered by the »Fishpond Flush« image template. Because of the scale, in this category respondents gave 329 judgments and various semantic links could be divided into several intertwining subcategories. In the first group, associations associate primarily with flowers or blossoms. The second subgroup includes associative links with various fruits, the next group of this category is related to nature and natural phenomena such as spring, autumn, summer, seasons, wind, freshness of nature, noise, greenery, snowflakes, sun, day, rainbow, frost, sky, environment, field, fluffy clouds... The respondents also suggested that they associate the image template with trees, which they expressed by associating with foliage, vegetation, olive, grass and lawn, clover, trees and forest. The last subgroup includes associations related to marine flora and the environment. The respondents were associated with them in association with the sea, algae, sea level, the sea world, the island, warm places, the tropical atmosphere, the tropics and the water surface. Surprisingly, associations in relation to nature were so different and also contradictory, which is illustrated as an example in diametrically opposite semantic connections. This is an example of snow and summer, a tropical place and winter, and winter and summer.

In the category ART, COLORS, FORMS, where the participants gave 123 judgments, most associative responses were given in connection with colour and colourfulness. The image template was frequently associated with the various forms that they saw in the artwork and related to the narratives of the art material. There were also several judgments related to beauty and aesthetics. Other answers in this category were more dispersed. The semantic dimensions of the category PATTERN AND ORNAMENT, TEXTILES can also be associated with art, but we did not unite them into one category because of the association of mass and global consumerism. Nevertheless, the association on wallpaper, tablecloth, various patterns, notebooks, fabrics, fan, bedding, sheets and women's mobile phones are associated with design and aesthetics. Mental connection in this category are fewer and the answers are less homogeneous.

SIMPLICITY, CALMNESS, CONNECTIVITY, HARMONY are the marks that we used for the next category, the characteristic of which is that association connections are primarily related to the connotations of the harmonious psychological effect of artwork, and not to the illustration, as we have found in the first four categories. This category includes associations on simplicity, calmness, interweaving, relaxing, tranquillizing, peace, inner peace, connection, balance, equilibrium, compatibility, harmony and consonance.

Category LIFE, POSITIVITY, WARM includes semantic connections that bind primarily to positive emotions and emotional states and pleasant living situations. In this category, most of the associations were related with pleasure, with which the most participants connected »Fishpond Flush«» pattern. Association connections with life, warmth, positivity, happiness and freedom, affection and falling in love were also more frequent. In more dispersed associations, the respondents gave judgments that the image template associates them with entertainment, kindness, optimism, positive energy, invigorating, friendship, goodwill, familiarity, ease, beautiful life, enthusiasm, awakening, past, friendly environment, cordiality, incentive, spontaneity, walk, will, fun, pleasure and freedom of thought. Also in the next category, which is related to LIVELY, ACTIVITY, INTERESTING the associativity of the partici-

pants were mainly oriented towards positive meaning connections. The optical performance of the pattern the respondents mainly linked with vividness, vibrancy, diversity, variety and interest. In more dispersed responses, they were also experienced as full, energetic, varied, dynamic, and more.

TENDERNESS, CHILDISHNESS, FEMININITY is a category that binds primarily to the colour symbolism of pink, which is the dominant colour in the pattern. In this category, the respondents most frequently perceived association with tenderness, playfulness, youth, girls and femininity. In semantic connections with playfulness, childbearing, bubbles, and romp, are also shown their semantic links to childhood. However, all associativity in this category has not only positive connotations, as the respondents say that this visual vibration remembers, among other things, on the annoying blonde girlfriend, that they feel artwork too female, girlish to associate them with »Barbie«, more or less they also disguised measured their association with homosexuality, which is still stigmatized in our society. For example, one such allegory was that the pink colour in the image template is a colour for gentle boys. In their comments, the respondents also often mentioned that, in addition to the lack of the spatial dimension and too much free composition in the artwork, they are described as the chaotic structure of the picture, the imposed of elements and the discordance of shapes, disturbs them precisely the pink colour. This kind of association passes into the last category of associations for the »Fishpond Flush« image template, which we have named FANTASY, CHEAPNESS, TRIVIALITY, UNNATURALNESS, EXPRESSIONLESS. We mainly categorized it into associations with a negative connotation. These are 83 and are very inhomogeneous. The simplest semantic dimensions of this category can be described by a parable in a comment by one of the participants in the research: »The Land of Sweets. The whole is too kitschy.«

Tab.4 Statistical analysis of expressed judgments by individual dimensions of the semantic dimensions of the Fishpond Flush pattern (mean values – M, modus – Mo, standard deviation – SD)

DIMENSIONS	M	Mo	SD
1. uncomfortable - pleasant	5,257	7	1,679
2. passive - active	5,068	6	1,346
3. ugly - beautiful	5,084	6	1,622
4. calming - exciting	4,241	5	1,509
5. unstimulative - stimulating	4,689	5	1,343
6. modestly - luxurious	4,791	5	1,365
7. weak - strong	4,476	4	1,302
8. inhibitory - accelerating	4,429	4	1,234
9. simple - complex	4,309	5	1,540
10. poor - rich	4,937	5	1,264
11. calmly - lively	4,958	6	1,678
12. negative - positive	5,272	7	1,514

3.2. Evaluation of the »Fishpond Flush« pattern from the point of view of semantic dimensions

A statistical analysis of the significance of the semantic dimensions of the Fishpond Flush pattern showed that the mean values of the judgments expressed (M) ranged from 4.241 to 5.272 (Tab.4). With the highest mean value of the given judgments, the 12th dimension that stands out in the field of dimension is negative - positive. Its average of judgments expressed is high, which is also indicated by the most frequently expressed rating (Mo) in this dimension, which is in the ranking 7. From these results, it is evident that the sample respondents most often perceived as a very positive visual vibration.

In a more precise analysis of the given aesthetic judgments in all dimensions and their evaluation, it can be concluded that the respondent estimated the pattern by judgments which, from neutrality, tend to only a positively expressed gender. There are no average estimates of judgments expressed in the negative gender. The lowest expressed average was given in the 4th dimension with a value of 4.241, which shows us a positive neutral mean value. This estimate indicates that respondents in the ratio of the calming and exciting image field perceive as fairly neutral, while their judgments are only inclined to the judgment that the optical impression is a little exciting. The pattern higher average values also reach in the 1st, 2nd, and 3rd dimensions. The analysis of these aesthetic judgments reveals that the participating pattern of Hanna Werning was perceived as a more pleasant, active and beautiful visual field. The respondents were the most unanimous about the pattern in the responses they gave for dimension 8, that is, in the judgment that the optical impression of the sample is a bit accelerating. The greatest non-homogeneity in answers occurs in dimension 1, that is, perceiving the dimension is pleasant o uncomfortable, where the SD value reaches 1,697.

3.3. Evaluation of semantic dimensions and dispersion of results by gender

In the study, was tested gender dependency and their preference in terms of 12 semantic dimensions. The analysis of the study revealed that in two semantic dimensions, are expose statistically significant dif-

Tab.5 Frequency of aesthetic judgments given in dimension 3

Semantic values of dimensions 3 UGLY - BEAUTIFUL	GENDER				Total		Results	
	FEMALE		MALE					
	f	%	*f*	%	*f*	%	χ2	P
VERY UGLY	2	1,6	2	3,1	4	2,1	17,713	0,007
MAINLY UGLY	4	3,2	9	13,8	13	6,8		
SLIGHTY UGLY	12	9,5	8	12,3	20	10,5		
NEVERALL	15	11,9	9	13,8	24	12,6		
SLIGHTY BEAUTIFUL	20	15,9	17	26,2	37	19,4		
MAINLY BEAUTIFUL	38	30,2	13	20,0	51	26,7		
VERY BEAUTIFUL	35	27,8	7	10,8	42	22,0		
Total	126	66,0	65	34,0	191	100		

Tab.6 Frequency of aesthetic judgments given in dimension 12

Semantic values of dimensions 12 NEGATIVE - POSITIVE	GENDER				Total		Result	
	FEMALE		MALE					
	f	%	*f*	%	*f*	%	χ2	P
VERY NEGATIVE	6	4,8	1	1,5	7	3,7	15,446	0,017
MAINLY NEGATIVE	2	1,6	1	1,5	3	1,6		
SLIGHTY NEGATIVE	2	1,6	6	9,2	8	4,2		
NEVERALL	24	19,0	14	21,5	38	19,9		
SLIGHTY POSITIVE	22	17,5	20	30,8	42	22,0		
MAINLY POSITIVE	30	23,8	13	20,0	43	22,5		
VERY POSITIVE	40	31,7	10	15,4	50	26,2		
Total	126	66,0	65	34,0	191	100		

ferences in the assessment of their semantic values with respect to gender. The largest inhomogeneity between the groups is therefore shown in dimension 3 (Tab.5), which contains semantic values in the range of dimension UGLY - BEAUTIFUL and dimension 12 (Tab.6), which contains semantic values in the range of dimension NEGATIVE - POSITIVE.

The result of the χ2 test with a value of P = 0.007 revealed, therefore, that in the assessment of dimension 3 (Tab.5), which covers the semantic values of UGLY - BEAUTIFUL, there is a statistically significant difference between the women and men who participated in the study. This result confirmes hypothesis H1, therefore it can be asserted that the arrangement of respondents by gender relating to dimension 3 is inhomogeneous. Aesthetic judgments are on average emphasized concentrated in the positive poles, but the results and analysis of the answers explain that as many as 73.9% of women considered the pattern as more or less beautiful, while only 57.0% of male respondents considered this. The difference between women and men is also reflected in the responses of the opposite or negative poles, that is, in judging the ugly one. The visual field of the pattern is more or less ugly as much as 29.2% of men and only 14.3% of women. The highest frequency of responses was given by the participants in the judgments that the image field is perceived as a predominantly fine artwork, which is also recorded by the most frequently expressed rating (Mo), which is in the rank of 6.

The result of the χ2 test also explicates that in the evaluation of dimension 12, which includes semantic values NEGATIVE - POSITIVE, there is a statistically significant difference between women and men who participated in the study. The characteristic of the χ2 test is P = 0.017. Therefore, we assert that the distribution of subjects by gender relating to dimension 12 is inhomogeneous (Tab.6). This result also confirmed the hypothesis H1, which suggests that there are differences between women and men in the assessment of semantic dimensions. A more detailed analysis of the answers records that 70.0% of the respondents decided on the answers in the positive poles. In the negative gender, only 8.0% of women and 12.2% of men gave their judgments, in total 9.5% of all participants. There is, therefore, an important difference between women and men reflected in the positive poles responses. As many as 73.0% of women assessed the visual vibration of the »Fishpond Flush« pattern as more or less positive, of which 31.7% of women surveyed rated it as very positive. Only 15.4% of men decided for such a judgment. For a positive evaluation of art syntax, men decided to 66.2%. Of these, 30.8% of them decided to see it as little positive. Women rated only 17.5% for judgments in the assessment, which is considerably less in comparison with men. The highest unity by gender in the positive gender results achieved in the assessment is mainly positive, which was decided by 23.8% women and 20.0% of men.

3.4. The impact of visual elements on the perception of »Fishpond Flush« pattern and the distribution of results by gender

In assessing the impact of visual elements on the perception of the »Fishpond Flush« pattern, the respondents selected between five elements: colours, lines, shapes, the structure of the image and the whole. There was possible to choose one or more answers that are not commonly exclusive. The frequency and percentage of positive responses given for the impact of each element (Tab.7) were statistically operated. The gender de-

Tab.7 The impact of artistic elements on the perception of the »Fishpond Flush« pattern

IMPACT	Answ.	GENDER				Total		Result	
		FEMALE		MALE					
		f	%	*f*	%	*f*	%	$\chi 2$	P
COLORUS	YES	96	75,0	40	61,5	136	70,5	3,754	0,053
LINES	YES	9	7,0	4	6,2	13	6,7	0,053	0,818
SHAPES	YES	69	53,9	24	36,9	93	48,2	4,980	0,026
STRUCTURE OF THE IMAGE	YES	25	19,5	13	20,0	38	19,7	0,006	0,938
THE WHOLE	YES	42	32,8	20	30,8	62	32,1	0,083	0,774

pendence on the influence of various artistic elements was also tested.

The results of the research about the influence of the elements indicate that the colours had the greatest influence on the perception of the artwork (Tab.7). The respondents confirmed in 70.5 % that colour is the most significant factor influencing the perception of art syntax. The influence of other elements on the perception of art material was significantly lower. Regarding the effect of colour, the answers between women and men were less homogeneous. 75.0% of women and 61.5% of men confirmed that colour is the most influencing factor on their perception of art syntax, but $\chi 2$ test with a value of P = 0.053 reveals that the gender difference is not statistically significant. The analysis of the results of the effect of colours confirmed hypothesis H2, which is based on the assumption that colour is an essential factor that influences on the effect of an art structures.

As the second most common impact on the perception of art syntax, the respondents chose the forms. The influence of the form was important in 48.2% of the respondents, therefore, in this case, we can confirm the hypothesis H3, which presupposes that the semantic dimensions of the internal structures of the shape significantly affect on the optical effect of the entire art material. In further analysis of the results, we also found, that in the perception is a significant difference between the female and male respondents. 53.9% of women and only 36.9% of men expressed that the shapes had a significant influence on their decision. The result of the $\chi 2$ experiment with a value of P = 0.026 explains that there is a statistically significant difference by gender (Tab.7).

The frequency of affirmative answers further proves that the whole is the third element, which most influenced on the perception and understanding of the pattern. The structure of the image was exposed as the fourth element, and at the end of the analysis of affirmative answers, it was also found that the lines are the least influenced the perception of artwork »Fishpond Flush«. For these elements, the $\chi 2$ test result also revealed that the distribution of respondents by gender regarding the impact on whole, image and line structure is unitary (Tab.7).

4. Conclusion

The research we explored the experience and understanding of the »Fishpond Flush« pattern. The associativity which is triggered by the artwork it was checked. It was determined how aesthetic assessment of the respondents was in relation correlated to the various semantic dimensions, and what is the impact of the artistic elements on their perception. Innovation and »added value« derive from originality discussed problem content, at the same time the topic of the research is still an unexplored area on the narrower and wider EU. The innovative approach enables, proving different understanding of the artwork for consideration of the problem based on the conducted analysis association of pattern.

The analysis also reveals the optical impression of the pattern is triggered by many different associations, both positive and negative. The respondents gave over 290 different semantic associations with their variations, which we classified into 9 categories. The association of the pattern is emphasize oriented towards the mimetics of the visual field. The most associations refer to what the respondents could actually infer from the pattern, i.e. animals and elements from nature. Category of NATURE, SEASONS is by the number of different associations and also in the frequency of answers the most extensive among all categories. There were few negative semantic links, but we classified them only into the last, ninth category.

The analysis of the evaluation of the semantic dimensions showed that in the artistic vibration of the pattern with the highest mean value of the given judgments, stand out the 12th dimension, which moves in the field of dimension negative - positive. From these results, it can be seen that respondents were perceived pattern as very positive visual vibration, and from a more detailed analysis of aesthetic judgments, it is to be understood that participants perceived pattern as a more pleasant, active and beautiful visual field. The results of the $\chi 2$ test revealed that in two semantic dimensions are shown statistically significant differences in the judgment of their semantic values with respect to gender. The largest non - homogeneity between the groups is therefore expressed in dimension 3, which contains semantic values in the UGLY - BEAUTIFUL dimension field, and in dimension 12, which contains semantic values in the field of the dimension NEGATIVE - POSITIVE, which is also confirmed by the result of the $\chi 2$ test. According to the results, therefore, we assert that the distribution of subjects by gender

in dimensions 3 and 12 is non-homogeneous, what confirmes the hypothesis H1.

The results of the research about the influence of the elements indicate that the colours had the greatest influence on the perception of the artwork. The respondents confirmed in 70.5 % that colour is the most significant factor influencing the perception of art syntax, what confirmes the hypothesis H2. The analysis of the results also shows that the influence of the shape was decisive in 48.5% of the respondents, therefore, in this case, it can confirm the hypothesis H3, which assumes that the significant dimensions of the internal structures of the shape significantly influence the optics effect of the entire art material. In the further analysis of the results, it was also found out that there is a significant difference in the perception of the visual field between the questioned women and men. 53.9% of women and only 36.9% of men expressed their importance in shaping their choices. The result of the $\chi 2$ test with a value of $P = 0.026$ explains that there is a statistically significant difference in gender.

Identification and understanding of the artwork is, therefore, a matter of perception with which we observe its formation. The form of artwork combines the structure of artwork, which encompasses both the visual structure in its explicit appearance, which is the result of the internal structure, as the content of the artwork, that is, its mental structure through which the author establishes communication and effects on the viewer and, consequently, on the broader environment.

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