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THE INFLUENCE OF SCULPTURE ON PUBLIC SPACES WHERE THERE IS HIGHER TENDENCY FOR CONFLICT TO ARISE: ATTITUDES¹ TOWARDS ARTWORK IN PUBLIC SPACES

Abstract

According to UNESCO, in 2015, the sculpture as the artistic medium was third among financed public residency art programmes. Contemporary public art and cultural programmes across Europe were focused on finding a balance between cultural identity and cultural diversity among the communities. Therefore, aesthetics and function became a significant issue related to the exploration of participatory design on public sculpture. In this paper, an adopted model of Kurt Lewin's force field analysis was used to explore the function of sculpture in the public space. The aim was to further evaluate inclusive design to answer the question: Does contemporary sculpture in the public space evoke a certain kind of group dynamic process?

Key words: Aesthetics, Community Construction, Social Impact Analyses

Słowa kluczowe:

The discussion presented in this paper was based on Kurt Lewin's theory of force fields². The outcome was compared with dynamic changes between authoritarian and democratic groups previously observed by Lewin. Lewin's

¹ "An attitude is a mental and neural state of readiness, organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related." In: G.A. Allport, *Handbook of Social Psychology*, ed. C. Murchison, Worcester, Mass. 1935, pp. 798–844.

² *Force field* — the term used by Kurt Lewin as a descriptive model for the social space of the person. The area of the field could be in interdependence with another person. According to Lewin, the impact of two opposite to each other and within organization forces should evoke dynamical process of changes.

empirical findings suggested that authoritarian groups are governed by aggression-based action. Moreover, the reception of dominant behaviour by one member of the group was interdependent on the members of the other, primarily non-aggressive group.³

The experiments with public sculptures involved use of a questionnaire designed to decrease cognitive dissonance in the respondent. Therefore, the method was not a survey, but a qualitative type of conducted research. However, the model of saturation developed directly from Kurt Lewin's empirically tested concepts⁴ allowed for a certain strictness with measurement of the force field. The questionnaire included five questions with two projective and three Likert Scale declarative questions⁵. The method of saturation was based on measurement defence in the answers, using the questionnaire as additional stimulus to lower the cognitive dissonance of the sample.

To transport the concept of the force field into the art theory using measurable arguments the observation of Richard Reicher on group dynamics was made. Reicher spoke about the factors responsible for the group construct: taking risks, further strategies toward that risk⁶ and the further research for the leader who

³ K. Lewin, *Frontiers in Group Dynamics: Concept, Method and Reality in Social Science; Social Equilibria and Social Change*, "Human Relations" 1, 1947, p. 23.

⁴ The Kurt Lewin theory of the force field and three stages of the group dynamics process have been proposed as accurate in relation to the subject of democratic changes. K. Lewin, *Resolving Social Conflicts, Harper International Edition London, Massachusetts 1945*, pp. 25–26. also: K. Lewin, *Frontiers..., et. al.* As certain elements of Lewin's theory are presented in this paper directly, as are certain shortcuts in the description of force levels, it is strongly recommended that the researcher in search of deeper insight into the model of saturation look for those sources from this footnote. Unfortunately, due to limitations of the paper, the entire line of reasoning as to how the Lewin's was adopted cannot be defined here. However, full documentation on Attitude Towards Contemporary Sculpture in a Public Space Measured with a Method Based on a Kurt Lewin Concept of the Force Field. exists as a part of the research, under affiliation of University of Ulster.

⁵ I adopted basic understanding of the control scale to compare the level of passive or active relation of the respondent towards the sculpture or other members. The method used in the research was based on: J.W. Creswell, *Research Design, Qualitative, Quantitative and Mixed Methods Approaches*, II Edition, Sage Publications, 2003, pp. 19–20.

⁶ The 'risk' may not mean a real risk but a shared in the group information, that there was, or would be a risk. The risk could be imaginary but still influence decision processes. Two passages in Prof. Reicher's work were critical to Le Bon.. "On an ideological level, Le Bon's ideas serve several functions. Firstly, they act as a denial of voice. If crowds articulate grievances and alternative visions of society — if, in Martin Luther King's resonant phrase, crowds are the voice of the oppressed — then Le Bonian psychology silences that voice by suggesting that there is nothing to hear. [...] Le Bon's work is thoroughly decontextualized. The crowd is lifted both from the distal and the proximal settings in which it arises and acts. If Le Bon's concern was with the working- class crowds of late nineteenth century France, no sense is given of the grievances and social conflicts which led angry demonstrators to assemble". S. Reicher, *The Psychology of Crowd Dynamics*, in: eds. G.J.O. Fletcher, M.S. Clarks, *Blackwell Handbook of*

would take responsibility for that risk. What was significant was that the common understanding of a leader would not always mean a ‘powerful’ person, but rather a set of attributes that could be given by the members of the group to someone, i.e. his or her social role. Therefore, in context of leadership we should rather speak of a certain transcendental construct of the mind than a strict idea or features of a particular person. Following that line of reasoning, what defines a group would be a collection of similar attributes (covariates) that might be observed thanks to the constructed method. Those attributes (covariates) do not represent a private view, e.g. on sculpture. They are rather a collection of certain similarities that are replicable in actions of individuals.

To increase the validity of the study, the research included a set of pilot studies and focused on the following artworks: Antony Gormley’s Sculpture for Derry Walls in Derry/Londonderry, Shiro Masuyama’s Five Apples in Ballymena, Allan Beatie Herriot’s Rinty Monaghan in Belfast, Ross Wilson’s Mother Daughter Sister in Belfast, Ryho Paprocki’s Garden of Salt and Art in Bochnia, Poland.

Data gathered in the pilot studies allowed for the identification of several covariates: ‘sexual’, ‘abstract’, ‘materialistic’, ‘religious’ and ‘unable to define’. Those discoveries aided the investigation of more complex problems in the final set of experiments: those more complex problems focused on intra- and extra- interdependences with reciprocity, hypothetical change of force in researched groups during the defined time interval and change of attitude toward sculpture within the time period.

Two different sculptures were used in the final stage of research: an abstract sculpture named ‘Reason’ for Nowa Huta and the transfigurative sculpture ‘Vision’ for Derry/Londonderry. The outcomes of both those experiments are considered confirmative that the sculpture could evoke group dynamic processes.

The objective of those two experiments was to summarise the phenomena from all the groups researched and identify correlations in the study.

The phenomena were defined when the answers provided by the respondents were not consistent in their own grammarology or semiotics of logic, when the behaviour of the respondents did not align with their statements and when the beliefs presented by respondents about the artwork appeared to be a borrowed statement given without any supporting explanation.

During the pilot studies, it was noted that some respondents did not hesitate, but answered with statements that were antithetic to each other. Such answers,

classified under only one covariate, raised the question of validity. Therefore, such findings were classified as phenomena and were used to define the neighbouring range in classifications of intra- or extra- relations on the force field graphs⁷.

RESEARCH METHODOLOGY FOR THE SCULPTURE 'REASON'

The research focused on the sculpture Reason was completed in front of the PRL Museum in Nowa Huta, currently a quarter in Krakow, Poland.⁸ The samples were acquired three times to identify replicate phenomena within Lewin's three stages model of observed changes in the group⁹.

Date	Time the sample was taken	Number of participants
05.12.2015	10:15–13:50	35
14.12.2015	10:00–12:45	29
09.01.2016	09:45–14:15	33

Nowa Huta was a purpose-planned, self-efficient hometown for the proletariat class, who were employed in Poland's largest steel foundry¹⁰. The complex was developed since the early 1950s on the order of the government. The architecture of Nowa Huta was designed by Tadeusz Ptaszycycki, Bolesław Skrzybalski, Tadeusz Rembiesa and Stanisław Juchnowicz. The lead architect was Tadeusz Ptaszycycki¹¹. The basic concepts for planning the city were socialist realism and Renaissance urbanist models¹². To begin with, the area was divided into

⁷ Lewin in his text about graphical exposition of Group Dynamics processes supported himself with terminology from the field of sets in mathematic. A basic nearest-neighbor range of research, were if S is multiplied collection — a set in a d -dimension of M , then with query point $q \in M$, our Neighbor range will be the closest point in S to q .

⁸ Location: os. Centrum E1, 31-934 Krakow, Poland. Web site: <http://www.mprl.pl/>.

⁹ Lewin conceptualized, that the process of interference of the relationships in the group could be categorized in three stages: Unfreeze — Change — Refreeze. In the first stage the group members would not react openly towards the other members of the group. Therefore, interdependences would not be set then. In the next stage, the relations would be the most dynamic. In that stage the hypothetical leaders become active. Finally, the group re-construct it's structure. Some of the members could leave the group and create other set of interdependences. Therefore, for Lewin the Group Dynamics was in ongoing process of changes. K. Lewin, *The Dynamics of Group Action*, "Educational Leadership" 4, 1944, *et al.*, also: K. Lewin, *Frontiers...*, *et al.*

¹⁰ Nowa Huta in English means: New Foundry

¹¹ Source: <http://urbnews.pl/urbanistyka-nowej-huty-wady-zalety/> [accessed 7 February 2016].

¹² Architects of Nowa Huta were under the strong influence of the utopian work by Tommaso Campanella. T. Campanella, *The City of the Sun*, firstly edited in 1602.

16 main sectors, after which renaissance-eclectic buildings were constructed on the plane of the squares. The interior spaces between buildings and transportation roads were sown with a large number of plants.

All of the city's quarters meet at the central point of the main square, called 'Rose Alley', where a statue of Lenin by Marian Konieczny was placed on 24 April 1974. The statue was the subject of great dislike. On 19 April 1979, unknown dissidents attempted to destroy the sculpture with the use of explosives. The statue was demolished by foundry workers, local militia and members of the army on 10 December 1989¹³. From the 1970s through to the 1980s, Marian Kruczek, a sculptor who lived in Nowa Huta, contributed several works to the city's public spaces¹⁴. Most of his sculptures were vandalised or silently dismantled. In 2016, the Krakow City Council allocated some budgetary resources to restoring sculptures in Nowa Huta¹⁵.

From 2011 to 2013, sculptures placed in Nowa Huta's public spaces as part of the ArtSesja programme were destroyed or removed¹⁶. Another example of a political attack was that on the sculpture 'Pissing Lenin' by Batrosz Szydłowski, which was exhibited temporarily during the ArtBoom Festival in 2015. The action against the sculpture was led by PIS (Law and Justice) party member Adam Kalita¹⁷, who ordered that a giant condom be placed on the sculpture. Shortly after the incident, the sculpture was moved from Nowa Huta by the artist¹⁸.

¹³ Source: <http://ciekawykrakow.blogspot.com/2013/06/kotlet-dla-lenina-i-wybuch-w-nowej-hucie.html> [accessed 7 February 2016]. Most sources about the dismantling of the sculpture are silent with regard to the calmly standing soldiers visible in the photograph taken during the demolition of the monument in 1989. Source: <http://nowahistoria.interia.pl/aktualnosci/news-pomnik-lenina-zniknal-z-nowej-huty-25-lat-temu,nId,1570306> [accessed 7 February 2016].

¹⁴ Stanisław Rodziński and Marian Kruczek, 1927–1983, *Malarstwo, Grafika, Rzeźba*, Nowohuckie Centrum Kultury, Kraków 2009, p. 15.

¹⁵ M. Mrowiec, *Kraków zadba o swoje rzeźby w plenerze, na początek w Nowej Hucie, Cracow will take care about own sculptures, in Nowa Huta for the beginning*, "Dziennik Polski" 5 May 2016. Source: <http://www.dziennikpolski24.pl/region/a/krakow-zadba-o-swoje-rzezby-w-plenerze-na-poczatek-w-nowej-hucie,9953468/> [accessed 7 November 2016].

¹⁶ Work of Wioletta Buczek partly damaged, then removed. A sculpture by Brele Scholz saw a similar case. Another sculpture made by the researcher was also destroyed. The website of the art programme: <http://art-krzysztof.com/www.artsesja.com.pl/uczestniczye371.html?id=18> [accessed 7 February 2016].

¹⁷ Source: <http://www.tvn24.pl/krakow,50/sikajacy-lenin-w-krakowie-pis-protestuje-zalozylismy-mu-prezerwatywe,438788.html> [accessed 5 November 2017].

¹⁸ It could be worthy to mention that, according to the GUS (Central Statistical Office), in 2013, the Polish Government spent 0.5% of its budget on art and culture. Within the main scope of funding were museums and renovation of existing objects related to cultural issues (24.2% of the whole budget for culture). In the Lesser Poland district, where Nowa Huta lies, the city councils spend an average 175.86 PLN *per capita* for culture and art (around 16 GBP). D. Maćkowska-Cichosz, B. Nowak, *Wydatki na kulturę w 2013 r.*, US Kraków [Expenses on the Culture in Cracow in 2013], Ośrodek Statystyki Kultury, 2014, pp. 2–3.

After synthesis of relevant cases and sources, it is reasonable to assume that issues around sculpture in Nowa Huta's public spaces are significantly influenced by political motivations. The basic question to consider was: How wide is the range of interpretation for sculpture in an area seemingly highly negative toward any art?

THE CONCEPT OF THE SCULPTURE CREATED FOR THE EXPERIMENT

The concept of the sculpture in its primal stage was based on gathered data about earlier incidents with vandalism against the already existing sculptures placed in Nowa Huta. The next issue to consider was political movements against earlier sculptures placed in Nowa Huta.

The damaged or removed sculptures were either abstract or related to the icon of Lenin in a site-specific context. Therefore, issues regarding specific history of the site, abstract form and the manner of destruction or damage became the basis for the concept of the sculpture. There were also formal issues related to the problem of transport and temporary implementation on the site: The sculpture needed to be easy to transport and simultaneously large enough to be seen from a distance in the public space. The basis of the artwork required that it lay only on the ground¹⁹. The sculpture needed to be made from high-resistance materials in consideration of earlier attacks on works in that area.

Therefore, the artwork needed to be a non-representative object with no ideological connotations to the icon of Lenin, Christ or any other historical event. With regard to the site-specific character of the sculpture, it was necessary for the work to be based on steel or iron materials due to the high chance of meeting respondents who had worked in the foundry. The object needed to leave interpretation open to the respondent as much as possible.

REALISATION OF THE SCULPTURE AND IMPLEMENTATION ON SITE

The final form of the sculpture was founded on the basic shape of the human head, and was constructed from repetitive collections of orbs. The object was open horizontally with a one-metre-long cut. On the opposite side of the sculp-

¹⁹ The Polish Perpetual law differs from the law in the UK and Northern Ireland. In Poland, implementation of a sculpture does not require special permits if the work is not attached to the ground. Source: Art. 29 ust. 1 pkt. 22 Prawa budowlanego, Art. 3 pkt 4 ustawy z dnia 7 lipca 1994 r. Prawo budowlane (Dz.U. 2016 poz. 290 and Rozporządzenie Ministra Infrastruktury z dnia 12 kwietnia 2002 r. w sprawie warunków technicznych, jakim powinny odpowiadać budynki i ich usytuowanie (Dz.U. 2015 poz. 1422). In the UK, the construction is required to be attached to the ground due to the issue of health and safety.

ture, there were vertical cuts of the same length. Both cuts penetrated the form of the sculpture until meeting in the central part of the work. It was decided that the sculpture should be made of epoxy resin mixed with iron powder. The object quickly gained the effect of rusted iron after pouring citric acid on the surface.

The final realisation of the sculpture was based on the idea of a simple, quasi-biological form, which had been penetrated by an opposite object. The ‘opposite object’, in this case, was a reference to *open form*²⁰ (the cuts), which penetrated the closed form (the orbs).

The object was created by the researcher in an art studio²¹ and transported to the site on the night of 4 December 2015, with photographic documentation.

PROCESS FOR GATHERING THE SAMPLE

The created sculpture stood 20 m from the facade of the PRL Museum and 20 m from the street (Al. Solidarności). The front of the sculpture was oriented towards the centre of Nowa Huta, allowing the sculpture to be seen from a distance of at least 60–80 m. The sculpture was placed between three main transportation roads: the main road for pedestrians passing the Museum, people walking toward the Museum and pedestrians walking from or to the music school directly behind the Museum.

The research period was during the Polish winter, during which time the average temperature was below five degrees Celsius. There was distortion on 14 December 2015, when there was a smaller sample of 29 respondents due to the low temperature.

The respondents participating in the experiment were informed as to the idea of the research. The researcher did not confirm that he was the artist behind the sculpture. This non-confirmation was crucial to avoid defence or the possibility of raising cognitive dissonance from the side of the respondents. The title for the sculpture was not provided to respondents. In case of any questions from respondents regarding the matter of authorship, the researcher stated that any answer could disturb the quality of the outcome.

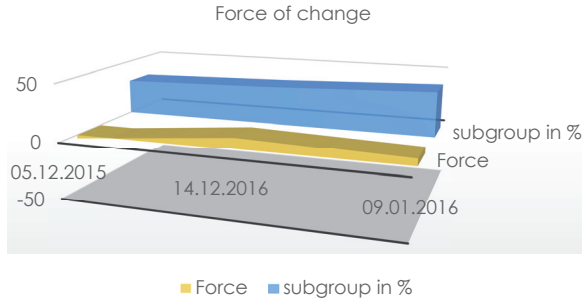
The research was positioned at a close distance to the sculpture. Most of the respondents were walkers passing by. The groups of people least interested

²⁰ W. Włodarczyk, *Rozmowa z Oskarem Hansenem [Discussion with Oscar Hansen]*, *W kręgu Formy Otwartej*, ed. J. Gola, Warszawa 1986.

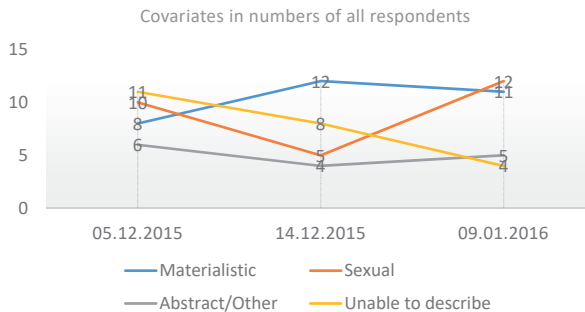
²¹ Due to the length of the reconstruction process on Belfast campus in that time, the object was made outside University facilities.

in taking part in the research were visitors to the Museum, and students of the music school²² heading to or from the building.

During the period of Christmas and New Year, the research was stopped due to possibility of unexpected incidents that could negatively influence the validity. After the last sample was taken on 9 January 2016 the sculpture stood on site until 22 January 2016.



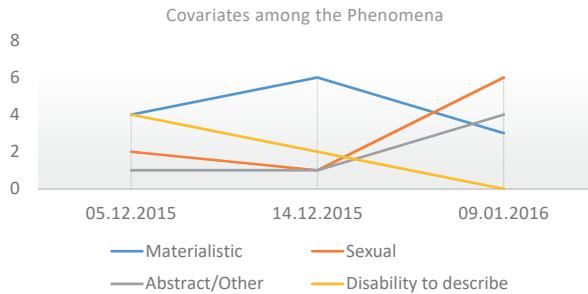
The graph presents the force fluctuation within the group that verbalised problems with the artwork, and the possible relations between that group and the fluctuation. Such a relation should be understood in the abstract sense — i.e. those objects probably did not meet each other, but a general behaviour could project certain ‘patterns’ within a larger collective. The group of people without high force of the attitude towards the sculpture grew in numbers during the experiment. In analogy, their force to intra dynamical changes had decreased. It is a reasonable assumption that members of that group gained a defensive opinion about the sculpture and did not form a connection with the object.



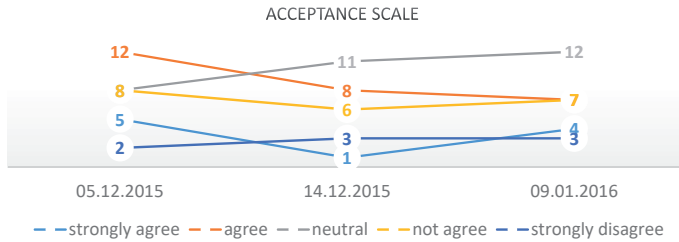
The above graph presents all the covariates of respondents. The least common of the classified covariate was Abstract. The most dynamic change was

²² English: National Music School of Mieczysław Karłowicz. Polish: Zespół Państwowych Szkół Muzycznych im. Mieczysława Karłowicza. Address: Osiedle Centrum E 2, 30-001 Kraków.

observed under the Unable to Describe covariate, with simultaneous growth in the Materialistic and Sexual covariates. The Religious covariate was not classified. The low number of respondents classified under the Abstract covariate could mean that there were some whose attitude toward the artwork was based on cognition or feelings. The decreasing number of respondents classified under the Unable to Define covariate over time does not necessarily mean rise of attitude towards the artwork. Most of respondents classified under that covariate gave negative answers to the declarative questions like: Do you like the artwork? Would you consider more artworks in this area? Could you match one word for the feeling you have when you see this sculpture? As the force of the attitude towards the artwork among those phenomena lowered in time, it could be presumed that those respondents were in the process of extra interdependence with the sculpture. Simultaneously, the attitude towards the artwork under the Sexual and Materialistic covariates increased over time. Respondents classified under those covariates often described the artwork with negative synonyms or even curse words, in the case of the Sexual covariate. In cases where responses were classified under the Materialistic covariate, the words used to describe the artwork were usually the terms for everyday objects, such as: money box, bunker, helmet.



The above graph shows the number of respondents classified as the phenomena only. It can be observed that the strongest change is evident amongst the Materialistic, Sexual and Abstract covariates. In the case of the Unable to Define covariate, the number of respondents fell to '0' in the tested group on 9 January 2016. The dynamic of the respondents within that covariate was comparable with the dynamic of the attitude amongst all respondents — not only those who were classified as phenomena. Therefore, the number of all respondents classified in the Unable to Define covariate decreased during the time the sample was taken. However, the changes among those phenomena were most dynamic. The declining number of respondents classified under the Materialist covariate could mean that the object was recognised as a sexual or inspirational artwork.



This graph presents the Likert Scale answers to question number one. An increase in the 'neutral' declaration on attitude toward the artwork was recorded. The definitive declarations of strong disagreement or strong acceptance were both low during the entire process of the conducted research. The average of those who declared agreement began to decline, while the average of those in disagreement remained in the middle of the scale. Although the graph did not show the relation between declared liking for the sculpture in comparison with projective answers, it was observed that the general attitude toward the artwork was strongly defensive. When compared with the covariates, it is a reasonable assumption that the strongest dynamic changes were recorded around the Sexual covariate with dynamic growth of negation. This could mean the sculpture had an impact on respondents, which led to increasing rejection toward the object as 'morally inappropriate' in the public space.

METHODOLOGY OF RESEARCH WITH SCULPTURE 'VISION'

The research was conducted on six occasions between 27 May 2016 and 7 June 2016 in the area of Peace Flame Park with a purpose-designed sculpture. The Peace Flame Park is situated approximately 150 m from Ebrington Square and 200 m from Peace Bridge in Derry.

Date	Time of the Sample Taken	Number of Respondents
27.05.2016	11:45–14:50	35
29.05.2016	10:35–15:15	35
31.05.2016	10:15–16:00	35
03.06.2016	10:05–14:45	35
05.06.2016	10:15–12:30	35
07.06.2016	11:10–13:50	35

PURPOSE OF THE RESEARCH

In a historical context, Derry/Londonderry was the site of the most significant eruptions of conflict between British Army and Republicans²³. In the last three decades²⁴, the city developed toward reconciliation. Sculpture played a significant role in building a new image for the town, within the context of implication for cultural diversity during and after the Troubles. Derry/Londonderry was chosen as the first UK City of Culture in 2013. Up to that period, approximately 100 million GBP had been invested in culture and infrastructure. The Derry-Londonderry Legacy Fund was established with the help of the Arts Council of Northern Ireland, and a three-year plan to manage art events and heritage-related topics was defined²⁵. The city in comparison to the rest of Northern Ireland had one of the highest numbers of young citizens under the age of 25, with a large population of students included. Simultaneously, Derry City and Strabane District Council faced high rates of unemployment²⁶.

Derry/Londonderry was chosen as the final location for gathering samples after the researcher visited in May 2015. The interviews and case studies on sculptures related to the city provided a theoretical background for consideration of Derry/Londonderry as an important hub for cultural changes, where public sculpture played a significant a role. As most of the city's artworks were commissioned by public art programmes, significant attention was focused on creating an artwork that would not be related to any topic of reconciliation, heritage, diversity or peace.

²³ The division among conflicted communities was simultaneously related to economic issues around employment, social position and sex. It would be a great misunderstanding to look on the conflict only in the context of loyalist ideology or religious sectarianism. In his work on trade unionism and sectarianism among Derry shirt workers, Andrew Robert Finlay found that a dichotomy was strengthened by the social roles between protestant factory owners and catholic workers. However, in the conclusion of his research, Finlay noted that the line of conflict among Unionist workers could be in relation to the functions of working women in Derry. A.R. Finlay, *Trade Unionism and Sectarianism Among Derry Shirt Workers 1920–1968, With Special Reference to the National Union of Tailors and Garment Workers*, London 1989, pp. 320–321.

²⁴ As a starting point, the TSWA 3D project with Antony Gormley's sculpture for Derry walls was used.

²⁵ O. McGillion, *Culture for Cities and Regions, Derry-Londonderry: first UK City for Culture*, Euro Cities, KEA European Affairs, Creative Europe Programme for the European Union, 2013. Source: http://www.keanet.eu/wp-content/uploads/Derry_UKCoC_30062015.pdf?4f4eb7 [accessed 7 May 2016].

²⁶ *Ibidem*.

CONCEPT OF THE SCULPTURE IN DERRY

A series of concept drawings were made after visiting Derry in May 2015. The final concept assumed that the site for the sculpture would be Peace Flame Park. In the main idea, the object should be easily accessible to respondents, groups of respondents should have heterogeneous attributes, and the site should be historically important to the local community.²⁷ It is worth mentioning that in the opinion of the DCAL, the strategy called *Creative Connections* brought certain developments in the area of public arts in the first few years of the 21st century for Northern Ireland. They was obtained by giving access to cultural events in the radius of 20 miles for every citizen of the region, with the help of the funds from the lottery, an investment of GBP 40.7 million was settled to reconsolidate the *most deprived areas* on the platform to end local racism, the poor economic state, and general social conflicts, through the Re-Imaging Communities Programme devoted to placing artists' works directly in the local communities, 192 projects were implemented to decrease sectarianism and racism (the issue of The Troubles was not directly mentioned, although 'sectarianism and racism' would be understood as a direct connection to the troubled past).²⁸ Therefore, the sculpture created for the research was already circulating in the certain concept of public art for Northern Ireland. However, it should be should be easy to construct and dismantle, resistant to attacks and safe to construct.

The concept evolved toward an art object constructed from two materials, representing the two communities. However, the construction of the sculpture needed to lead to compositional fulfilment. The concept was based on Strzemiński's theory of vision, where constructivist-behaviourist aspects of the artist act as a receptor toward nature. The stimulant was developed from the researcher's findings regarding the works of Luria and Konarski.²⁹

²⁷ The Old City Hotel previously stood on the site where the park was developed. The area of Foyle Street up to the Guildhall was a merchandise and small production area. *Foyle Street — a true place apart*, "Derry Journal", 3 June 2011 *et al.* The Peace Flame Park was part of the 2013 UK City of Culture project and was held under the auspices of the World Peace Flame Foundation as a symbol of reconciliation. Children from both communities that inhabit Derry were to light flames symbolizing peace in the park. D. D e e n e y, *Derry Children United to Light Flame of Peace*, "Belfast Telegraph", 16 May, 2013, *et al.*

²⁸ (ed.) B. Collins, *Ambitions for the Arts: A Five Year Strategic Plan for the Arts in Northern Ireland 2013–2018*, Belfast 2013, p. 7. [website] <http://www.artscouncil-ni.org/images/uploads/publications-documents/Ambitions-for-the-Arts-5-Year-Strategy.pdf> [accessed 10 November 2016].

²⁹ W. S t r z e m i ń s k i, *Teoria Widzenia*, [*The Theory of Vision*], 1952, pp. 234–238.

The final concept of the sculpture included the use of two materials: steel profiles and oak wood. The steel profiles symbolised the industrial history of the area, while oak wood was used to sculpt the shape of the body as a symbolic reference to Derry itself³⁰. The simplified shape of the human body was to be raised on three metal profiles above the level of the ground. The body was to be sculpted in a ‘figura serpentinata’ composition from the legs upward to the middle part of the corpus, where the metal profiles were to be placed. Above the level of the metal profiles, the shape of the body was to be unified and lead to abstract structuration. The sculpture’s composition was based on the law of contradiction: the set of materials used were in opposition to each other (metal and wood), and the suspension of the wooden element on metal profiles should present the object as one, while the object would not be complete if any element were removed. The composition of the metal profiles was to be close to pyramidal (geometrical) form. At the meeting point of those three profiles, the oak element would be mounted. Therefore, the sculpture would be built from its own contradictions: [soft (wood)] versus [hard (metal)], [once alive nature (wood)] versus [always inanimate nature (metal)], [carved figure (wood)] versus [industrial construction (metal)], and [static vertical element mimesis flesh (wood)] versus [dynamic geometrical rhythm (metal)].

The concept was accurate to the interpretation of contradiction by Jan Łukasiewicz in all three aspects: ontological, logical and psychological³¹.

³⁰ In the Annals of Ulster, the region of Derry was described in 1121 as the ‘oak wood of Columba’. A d o m n á n, *Life of St. Columba*, trans. R. Sharpe, London 1995, p. 255.

³¹ After Hegel, Łukasiewicz theorised that the contradictions of Aristotle were incomplete or false. J. Łukasiewicz, *O zasadzie sprzeczności u Arystotelesa (Über den Satz des Widerspruchs bei Aristoteles)*, [On the Principle of Contradictions in Aristotle], “Filozofia Nauki” 5/1(17), 1997, pp. 147–164.

In contradiction with determinism, the work of Łukasiewicz presented the third law of logic, where sentences could be both false or true if they belonged to the set of *futura contingentia*. In the place of classical junction on true or false sentences, Łukasiewicz proposed distinction for: already true, already false or not yet determinate. That trivalent logic became a construct for Multivalued logic. M. Tkaczyk, *Geneza Logik Nieklasycznych [The genesis of Non-Classical logic]*, in: *Logika, Wykład Kursoryczny*, Lublin 2010, pp. 106–107.

Among the critiques of Łukasiewicz’s Multivalued logic, Susan Haack presented a thought: that necessity for sequent does not result in the need for apodosis. In defence of Łukasiewicz against Haack, Dariusz Łukasiewicz outlined Haack’s inaccuracies. For Dariusz Łukasiewicz, Haack’s argument was a case of modal paradox and did not belong to incompatible thesis (IT), which claimed that the future is alethic only if it is set by the cause. D. Łukasiewicz, *O krytyce determinizmu i logice wielowartościowej Jana Łukasiewicza*, [On the critics of Łukasiewicz determinism and multivalued logic], “Studia z Filozofii Polskiej” 6, 2011, pp. 14–15.

REALISATION OF THE SCULPTURE AND ITS IMPLEMENTATION ON SITE

The wooden element of the sculpture measured 225 cm. The metal profiles that formed part of the base were 165 cm long and the three profiles that joined with the wooden section to create the triangular base were approximately 145 cm long. The height of the completed sculpture was 250 cm.

At approximately 8:30 a.m. on the day of assembly of the sculpture, 26 May 2016, the researcher located pro-refugee posters at the site. Following a short discussion with the City Council, the posters were removed on behalf of the researcher. The decision was made due to the following: the site and time had been previously agreed with the City Council and when the site was under the responsibility of the researcher, any distortion of a political nature could damage the quality of the research.³² Although the researcher had no personal issues against the action with the posters, a connection between the sculpture and posters could be made, which might influence the validity of the projective questions.

At around 9:00 a.m., the posters were removed. The process of assembly of the sculpture required approximately 30 minutes. A group of gardeners working nearby provided impromptu assistance during the assembly stage, which shortened the process considerably.

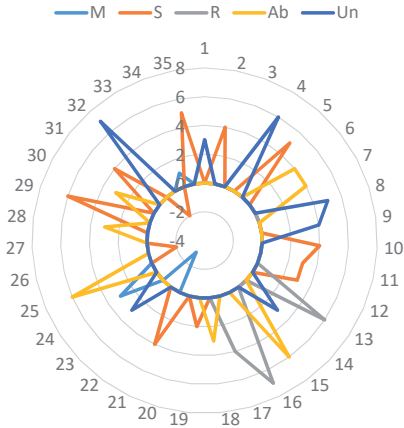
The sculpture was placed on the green area of the park approximately 10 m from the street, between the park and the Guildhall, and approximately 10 m from the central area of the park. The artwork was oriented toward the Peace Bridge.

PROCESS OF THE RESEARCH

The research was conducted within close proximity to the sculpture and on respondents who entered the park and had contact with the artwork. A sample was taken six times per day, with a one-day gap in between the gathering of each. A sports event was held near the Guildhall on the weekend of 3 June 2016, during the sample-gathering period. The event did not influence the process of the research. The respondents were informed about the purpose of the research and their rights.

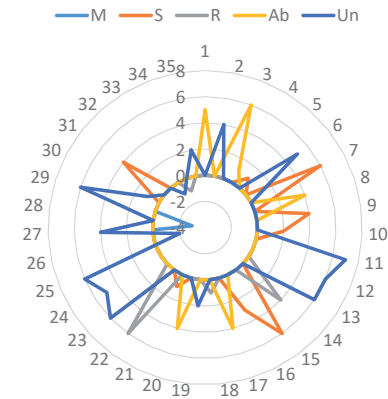
³² P. Edward, N. Montesano Montessori, *A critical return to Lewin: exposing discourse and identification in a Participative Action Research project; Paper for Organizational Change and Critical Management Studies stream (Stream18) at CMS7, Naples 2011.*

Derry/Londonderry – Sculpture – 35 people – 27.05.2016



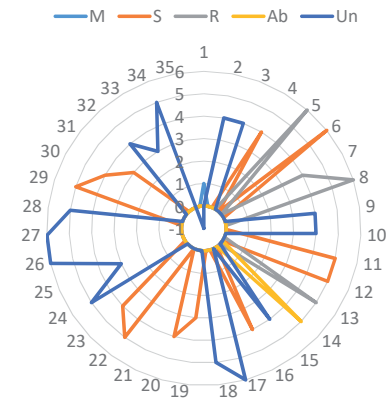
Graph of attitudes towards the artwork among 35 respondents recorded on 27.05.2016

Derry/Londonderry – Sculpture – 35 people – 29.05.2016



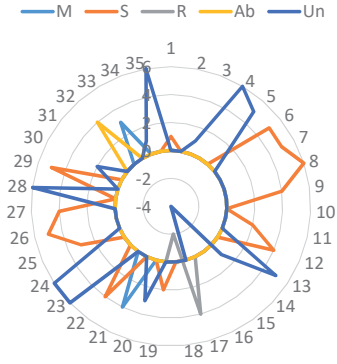
Graph of attitudes towards the artwork among 35 respondents recorded on 29.05.2016

Derry/Londonderry – Sculpture – 35 people – 31.05.2016



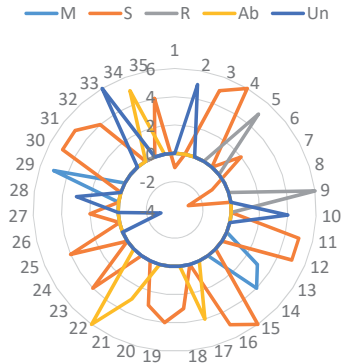
Graph of attitudes towards the artwork among 35 respondents recorded on 31.05.2016

Derry/Londonderry – Sculpture – 35 people – 3.06.2016



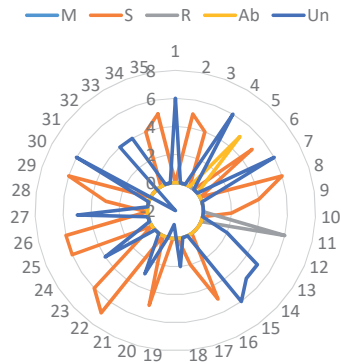
Graph of attitudes towards the artwork among 35 respondents recorded on 03.06.2016

Derry/Londonderry – Sculpture – 35 people – 05.06.2016

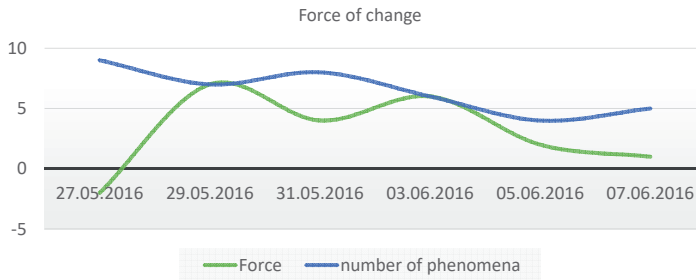


Graph of attitudes towards the artwork among 35 respondents recorded on 05.06.2016

Derry/Londonderry – Sculpture – 35 people – 07.06.2016

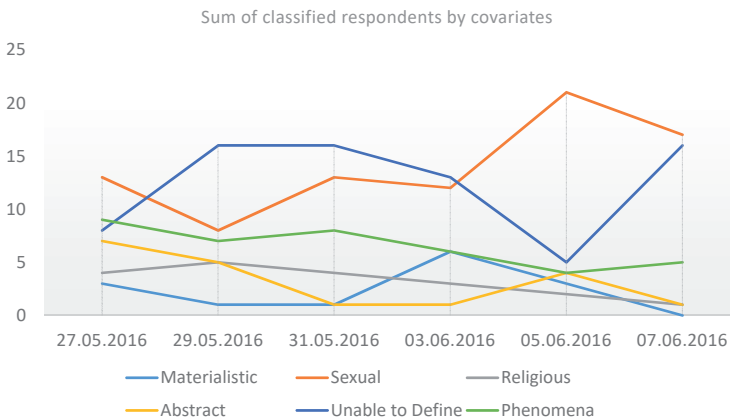


Graph of attitudes towards the artwork among 35 respondents recorded on 07.06.2016



A graph presenting the number of phenomena found among 210 respondents (blue line) with the extracted force line found among those phenomena. In the period from 27 May 2016 to 7 June 2016, the value of F decreased after a dynamic rise within an eight-day period. The number of classified phenomena also declined, with the lowest number recorded on 5 June 2016.

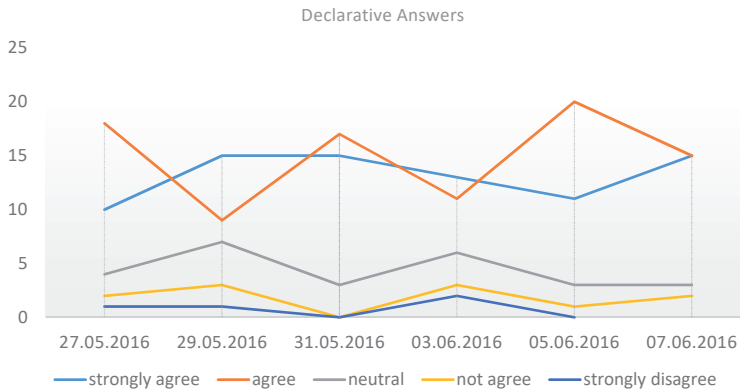
	Force	Number of Phenomena
27.05.2016	-2	9
29.05.2016	7	7
31.05.2016	4	8
03.06.2016	6	6
05.06.2016	2	4
07.06.2016	1	5



This graph presents the sum of classified respondents by covariates. The green line presents the number of phenomena classified during the experiment. The most significant changes were recorded on 5 June 2016, when the dynamic

rise in number of respondents classified under the Sexual covariate was found simultaneously with a dynamic decline of respondents classified in the Unable to Define covariate. The number of respondents classified under the Religious covariate declined steadily between 29 May 2016 and 7 June 2016.

	Materialistic	Sexual	Religious	Abstract	Unable to Define	Phenomena
27.05.2016	3	13	4	7	8	9
29.05.2016	1	8	5	5	16	7
31.05.2016	1	13	4	1	16	8
03.06.2016	6	12	3	1	13	6
05.06.2016	3	21	2	4	5	4
07.06.2016	0	17	1	1	16	5



This graph presents the number of declarative answers provided by all respondents in the period from 27 May 2016 to 7 June 2016. The most common declarations were given for the answers: 'strongly agree' and 'agree'. The number of answers belonging to the categories with limited response toward the artwork did not change significantly during the entire period of the research. The most notable change in the number of answers was recorded on 5 June 2016.

	Strongly agree	Agree	Neutral	Not agree	Strongly disagree
27.05.2016	10	18	4	2	1
29.05.2016	15	9	7	3	1
31.05.2016	15	17	3	0	0
03.06.2016	13	11	6	3	2
05.06.2016	11	20	3	1	0
07.06.2016	15	15	3	2	0

DISCUSSION OF RESEARCH OUTCOMES

During the gathering of the first sample, the attitude towards the sculpture 'Reason' recorded low force within the research group. The low level of force may suggest that the artwork was recognised as an alien element in the area. The attitude among respondents were low in the number of dense projections about the sculpture. However, the process of setting the structure for interdependence had started. This may reflect Lewin and Tuckmann's observations: In the first stage of creating the group, the members will stay in a 'neutral' position, described by Lewin as the 'Change' stage.

Another symptomatically prominent issue within the sample was the relationship between four groups: the respondents who saw the sculpture as a 'materialistic' object, most commonly describing it as a head or moneybox, were almost equal in number (8 to 10 respondents) with the group who saw the object in relation to 'sexual' terms (such as body, body organs, nature, or excrements). Meanwhile, the group who saw the object as an abstract image, related to the history of Museum of PRL or a fantasy creature (e.g. monster), were in the minority (six respondents). It is important to note that the members of the 'abstract-related' group of thinkers were mostly positive about the sculpture, while those from the last and strongest group of 11 respondents were largely negative toward the sculpture.

In the sample taken on 14 December 2015, the number of 10 phenomena from the tested sample of 29 demonstrated a powerful force able to influence the surroundings. As the positively oriented respondents were in the minority compared with the negatively oriented respondents, it was reasonable to assume that throughout the course of the research that part of the group would be in strong opposition to the rest of the sample. Hypothetically, they could be in conflict with the respondents who had a strong attitude towards the artwork.

Within that group of 29 respondents, the size of the group describing the artwork as 'materialistic' was the largest of all, with 12 members. The group comprised of those with mainly negative responses or an inability to describe the artwork was the second largest, with eight members. The smallest groups were those that described the sculpture as a 'sexual' object (five members) and other, abstractive forms (four members).

These results show a strong circulation of dynamics between the sculpture and its respondents, similar to the description of the 'storming' process in Lewin and Tuckmann's models of group dynamics. The study was completed 10 days after the sample was taken on 5 December 2015. The strongest force/change impact between intra- and extra-relations in the group occurred within the same 10-day period.

The outcome showed that the force of intra- and extra-relations within the subgroup that had difficulty declaring their status toward the sculpture was likely positive, yet not as strong as the dynamics of the group tested earlier, on 14 December 2015.

The number of 'neutral' answers increased consistently throughout the research period, though the number of respondents who had issues verbalising their inability to describe the artwork did not increase. Only four respondents out of 33 declared they were unable to describe the sculpture. It was noted that none of these four hesitated to claim this status.

The group who accepted the sculpture generally declined in Force during the research. The group who positively described the artwork also decreased: 48.57% on 5 December 2015, 31.03% on 14 December 2015 and 33.33% on 9 January 2016. Simultaneously, the subgroups improved their attitude toward the sculpture. Between 14 December 2015 and 1 September 2016 the different interdependences with the sculpture had been structuralised. In that sense, the implementation of the sculpture led to evoke differently structuralised groups. In the groups with low and defensive attitude towards the object most of the members recognised sculpture as another member of the group. In the groups with the high attitude towards the artwork, the object evoked more individual reactions. In those groups the artwork was recognised as a stimulus for sublimation.

It was reasonable to assume that the process of dynamic change in the area of non-verbal communication within the group would continue, due to the high number of 'Neutral' declared respondents towards increase of positive reactions.

Another principal issue that emerged from the research was a fluctuation between the 'Materialistic' and 'Sexual' subgroups. Recognition of the sculpture as a 'Sexual' object was observed at a level of 28.57% on 5 December 2015, then decreased to 17.24% on 14 December 2015 and finally increased to 36.36% on 9 January 2016. Meanwhile, descriptions of the sculpture as 'Materialistic' largely remained on similar levels throughout the whole period of the conducted experiment: 22.85% on 5 December 2015, 41.37% on 14 December 2015 and finally 33.3% on 9 January 2016. The period around 14 December 2015 saw the most significant changes in the group of respondents.

Before the final sample taken on 9 January 2016, the sculpture had been damaged with what appeared from the resulting marks to be a hammer. Just after New Year's Eve, remains of fireworks were found inside the sculpture. These occurrences raise the question: Had the process of dynamics reached a polarised level, or did something that could be described as an organic process of change occur? Due to the lack of more in-depth data, the researcher can only assume that in the case of the sculpture 'Reason', it is the ongoing chain of

reaction that should be considered, rather than a closed and polarised moment of ‘performing’ to the group of respondents. If this assumption is correct, then it can also be assumed that the sculpture’s aesthetical form and placement continuously influenced the local communities. Logically, another question follows: If that act of organic changes was in fact the process of ‘performing’ described by Lewin as a final form of the group or, as he assumed in the context of public space, became an ongoing chain of reactions.

The outcome from the samples with the sculpture Vision showed that, among the respondents classified under the covariates: Unable to Define, Abstract, Materialistic or Sexual, the words most commonly used to describe the artwork were: fluid, original, abstract, minimal, natural, oak, different, cultural, unique, firewood vogue, pure, will, tactile, beautiful, evocative, modern, spectacular, incredible, proud, I love it, wooden sculpture, simplified, elegant, freaky, mysterious, majestic interesting, impressive, weird abstract, stimulated, nice, authentic, like a person, dead animals, pace of wood, strong lines, curvy, a woman, simple, like the carving, wouldn’t be artwork, good, creative, person, subjective, bit challenging, not joyful, easy to the eye, fascinating, not sure.

Respondents classified under the Religious covariate usually declared the sculpture to be Christ or an icon of culture.

The sculpture significantly affected the respondents. The gathered data appeared to confirm Lewin’s theory on the three stages of human behaviour in a group. This could mean that the object, or reactions among people who had contact with the sculpture, may cause similar reactions to those created by dynamic changes in the group.

Most of the phenomena were observed by elderly people. Most of the females who participated in the research described the artwork with strong relation to their own judgement of public space. Male respondents often related their answers to abstract terminology.

A large group of respondents who declared that they experienced a representation of a person being hanged or an act of human suffering recorded at least an average or elevated attitude toward the artwork.

Most of the respondents with the least attitude toward the artwork were classified under the Materialistic covariate. Next, subgroups of respondents with an attitude recorded below $F(0)$ were classified in the Unable to Define and Sexual covariates. One respondent with F below (0) related the artwork to religious issues and made a political statement for it.

These results could mean that defensiveness towards the artwork was high among those respondents due to their lack of interest in cognition.

Most of the respondents accepted the sculpture in Peace Flame Park. No one asked the researcher whether the money spent on the creation of the sculpture came from a public source. The object was likely accepted by most of the

respondents because they found it did not distract them, and initiated their own private reflections. Respondents expressed their own theories as to why the object was in the park and its relation to the history of Derry, religion, or other transcendental matters.

An important issue raised by respondents was the quality of woodwork and distinction of the wooden part of the sculpture from the metal profiles.

The most significant change in the dynamic of the group was recorded on 5 June 2016, on which day the covariates Sexual and Unable to Define experienced the greatest disparities. The number of phenomena started to decline on 3 June 2016. The intra- and extra-relations among those phenomena were continuously in the process of decline. On 27 May 2016 the F(-2) was recorded among phenomena intra- and extra- relations. Compared to the range of attitudes observed that day (between -3 to 7) and the largest number of phenomena, that might mean the sculpture was recognised as an 'alien' object. Respondents could treat it as a factor unknown to them.

During the period of research, it was found that the object stopped being recognised in the conscious area of cognition among some respondents, but the processes between the sculpture and respondents were dynamic on an unconscious level.

FINAL CONCLUSIONS

The outcomes from both experiments, in Nowa Huta and Derry/Londonderry, can be considered as confirming that sculpture is able to evoke group dynamic processes.

If further research on that subject replicates these phenomena, then it could be considered that the most dynamic changes might oscillate in intervals of 9 to 11 days.

In case of the sculpture 'Reason', the increase of intra- and extra- interdependences were observed through saturation of the data gathered from questionnaires. Finally, within the days following the gathering of the last sample, somebody attacked the sculpture with a hammer or axe and damaged it. In the case of the sculpture 'Vision', a dynamic change in declared attitudes toward the artwork was observed in the period of the last three samples gathered. The outcome showed similar changes in the Force field to those presented by Lewin in his description of the three stages model of dynamic changes in a group.

The method used in this research had limitations: The sample was limited in size as well by the time allotted for the research. Each sample had to be treated as an individual case, otherwise the entire process could be affected

by the assumption that data collection could become research into the psychic condition of the respondents. A questionnaire designed as stimulus to research the human personality could be not considered as valid within the framework of such a complex task.

In that context, the outcome from the sample in Derry/Londonderry leaves questions that should be considered as the impact of the research: For example, the declaration that attitude toward sculpture increased in a relatively short period of two weeks while the Force within the group simultaneously decreased. In the case of the sculpture in Nowa Huta, the observations were the opposite. Were the sculptures themselves the main factor?

Therefore, the outcome raises certain questions for commissioners, such as: Should aggression not be avoided? Should sculptures commissioned for public space include the channelling of aggression as one of factors for impact?

Within the core of the main question lies the problem: Is sculpture cognised as part of an individual's social space or would a sculpture be recognised as another member of the group? Based on the development of Object Theory by Melanie Klein, it can be assumed that transference of personal characteristics onto the object is possible and therefore, that attitude toward sculpture is the same as for other members of the group. However, that does not mean that the concept of Freudian fetishism (and all related to the Marxist concept of commodities) should gain scientific validity. It appears, rather, that the Kleinian approach would exclude such a possibility.

The outcome from both samples raises the question: Were interdependences in the group evoked because attitude towards sculpture was cognised, felt or physically activated by the respondents' status as a member and the social space in which they experienced the artwork? Those diagonally different attitudes toward objects could be causative factors in the core of dynamic changes.

Summary

The research was completed with participants who had contact with sculptures created in the Arts Council of Northern Ireland Building Peace through the Arts programme and participants who experienced sculptures specially designed for that experiment and shown temporarily in Nowa Huta, Poland and Derry/Londonderry, Northern Ireland. The research found that certain sculptures could evoke processes confirmative to the observations of Lewin (1947) and Reicher (2008) on group dynamics, if the sculpture were to be classified as a type of attitude (Allport 1935) toward the object (Klein 1948, 1952), assuming that the tested sample may delude himself (Festinger, 1957). The findings could influence discussion on the evaluation of public commissions for sculpture in those public areas where conflict tends to arise.



Sculpture Reason. Author Krzysztof Krzysztof 2015



Sculpture Vision. Author Krzysztof Krzysztof 2016

Figures of sculptures used in the Pilot Study



Figure 1. Ryho Paprocki object: Garden of Salt and Art, Bochnia, 2015
Source: Krzysztof Krzysztof 2015



Figure 2. Allan Heriot sculpture: Rinty Monhagan, Cathedral Gardens, Belfast, 2015
Source: Krzysztof Krzysztof 2015

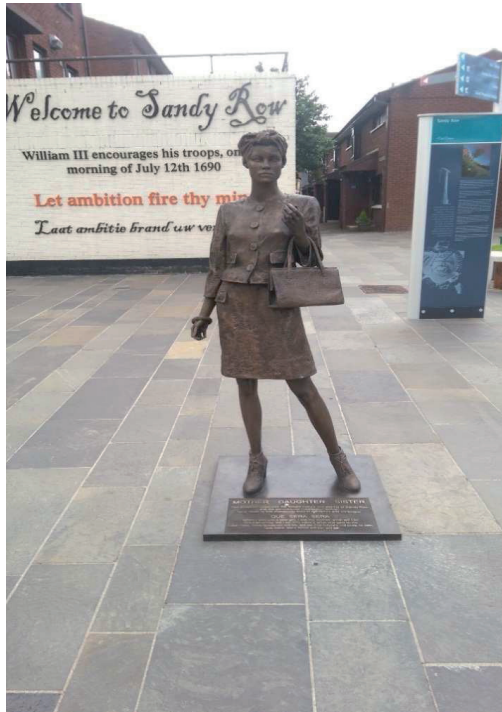


Figure 3. Ross Wilson sculpture Mother, Daughter, Sister, Sandy Row, Belfast, 2015
Source: Krzysztof Krzysztof 2015



Figure 4. Shiro Masuyama, Five Apples, People's Park, Ballymena, 2015
Source: Krzysztof Krzysztof 2015



Figure 5. Antony Gormley, Sculpture for Derry Walls, Derry, 1987
Source: Krzysztof Krzysztof 2016