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Editorial

Sanela Klarić

Today, our architectural profession faces even more challenging requirements, problems and opportunities because as part of our creations and activities, we are directly responsible for the protection of the natural environment and people. However, our obligations are much more complex, comprehensive and demanding. Our focus is not only on the aesthetics and function; we also need to consider energy conservation, life cycle of materials, waste management, use of renewable energy sources, rainwater recovery and maximum use of biodegradable local natural materials, while also paying special attention to comfort and health, and much more. That is why we must work comprehensively in interdisciplinary teams.

I am going to focus on just one of the range of factors that we must respect when designing, building and maintaining facilities, and that is the indoor air quality (IAQ). As people spend most of their lives (80-90%) indoors, it is very important to ensure high indoor air quality. This has gained additional importance because it is known today that some pollutants can reach concentrations that are several times higher indoors than outdoors. In addition to the level of outdoor air pollution, the quality of indoor air is greatly affected by additional pollutants originating from the interior of buildings, namely formaldehyde, volatile organic compounds (benzene, trichloroethane, toluene, ethylbenzene, and xylene), CO, CO2 and other chemical and biological compounds, hence indoor air can be 10 times more polluted than outdoor air.

Nowadays, we also know that prolonged exposure to indoor air pollution, even at low concentrations of pollutants, can result in adverse biological effects. According to the WHO, indoor air pollution is the eighth most important risk factor for human health and it is responsible for 2.7% of the global disease burden. The World Health Organization (WHO) defines indoor and outdoor air pollution as air contamination by any chemical, physical or biological agent that modifies the normal characteristics of the atmosphere.

Indoor and outdoor air pollution is a globally recognized threat to human health, ecosystems in general, the environment and the climate. According to the WHO, 12.6 million deaths worldwide annually are attributable to unhealthy environments, constituting 23% of total global mortality and 26% of infant mortality. The WHO data also show that 9 out of 10 people breathe air in which the concentrations of pollutants exceed the limits stated in the WHO guidelines, and low and middle income countries suffer from the greatest exposure. That is why the WHO Regional Office for Europe recently developed AIRQ + software to assess the effects of air pollution on public health. School-age children (usually 4-12 years old) spend more time (about 80%) indoors (e.g. in schools and their homes) than outdoors. After home, a school or classroom is the second most important environment for a child in which, mostly indoors, they spend about 25-30% of their lives (up to 10 hours a day).

Therefore, adequate air quality in schools is an important determinant of a healthy life and well-being of school children. Indoor air quality affects around 64 million students and 4.5 million teachers across Europe. The number of studies on the potential effects of indoor air pollution on the health of school children, their academic productivity and well-being, especially those involving younger school children, has been growing. To date, it has been confirmed repeatedly that poor indoor air quality is associated with various adverse health effects that have recently been classified into two categories - syndromes, namely the sick object syndrome and the object-related syndrome.

The health effects of poor indoor air quality on the school population are primarily related to respiratory problems, including the worsening of asthma, cardiovascular system diseases, cancer, and other environmental illnesses. However, poor indoor quality also has an impact on the attention and academic achievement of school children. Academic success can be impaired either directly or through the negative health effects of pollutants and the consequent absence of a child from school. Moreover, data suggest that early exposure to polluted air during intrauterine development and childhood may play an important role in the development of chronic diseases in adulthood.

With the COVID-19 pandemic, the issue of air pollution has become even more relevant because people have been forced to spend even more time indoors, with new dangers of infection and disease development in polluted, humid and stuffy unventilated areas. Furthermore, it has been even more difficult to isolate children in schools with the existing classroom facilities and schedules.

Recent research conducted in schools in Bosnia and Herzegovina (BaH) has shown worrying results where the pollutant levels measured were as much as 5-6 times the limits allowed by the World Health Organization. One of the reasons this could be attributed to is inadequate urban planning and investment architecture in BaH. There is also a lack of green spaces in cities, which further affects the increased pollution of outdoor and indoor air.

In addition, inadequate inspections of school locations further contribute to the negative impact of the outside air on the indoor air quality due to its transmission into the buildings. Energy efficiency projects have additionally led to an increase in indoor air quality problems, as the focus has been mostly on the renewal of envelopes and possible replacement of energy sources, which has resulted in even more hermetically closed premises, without regard to natural ventilation. No public building that has been renovated with energy-efficiency as the priority has any built-in ventilation or air recuperation systems. Research indicates that even with the implementation of energy efficient projects, the minimum required energy characteristics are not achieved, although they are so extensive in the EU standards that since June 2020 all facilities can only be built as nearly-zero energy buildings (nZEB). The renovated buildings do not even comply with the minimum requirements required by local regulations and violate the law.

Green certification is a comprehensive approach to the construction and renovation of facilities in accordance with environmental protection, circular economy and sustainability, which should be the goal and standard our country strives to achieve in the construction sector. In addition, the choice of materials is very important for construction or renovation, energy efficiency and interior design because many studies have shown that improperly selected materials have a very strong negative impact on air quality. Natural materials are recommended for the insulation materials or windows, but also for interior decoration. In addition, the philosophy of circular economy and green certification of facilities supports local production and the local economy and reduces transport costs. Green public procurement is one of the mechanisms to support the best and healthiest practices in BaH.

When maintaining facilities, it is also very important to follow the recommendations that the premises be maintained every day using natural hygiene products, and tools with adequate filters to retain particles and the like. Since we have a large number of different indoor air purification systems on the market, the next step is to compare the results of air purification in classrooms with different purification systems installed, such as recuperation systems, ionization systems, green wall systems, etc. The most important thing is to raise awareness of the importance of solving the problem of indoor air quality in order to ensure that our facilities and cities provide comfort and healthy conditions for all users in the future.

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Assessing the urban design qualities of the urban street: A case study of Sylhet, Bangladesh

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Abstract: Shortage supply of space for urban infrastructure including street and pedestrian aspects remains a great challenge in the context of Bangladesh due to the rapid growth of urbanization. Here, overcrowded cities can hardly manage space for walking, the safest mood of public mobility. In Sylhet, a city in north-eastern Bangladesh, widening the vehicular street and decorating pedestrian pathways is the common tendency of street development by the local authority where the quality of urban streets is rarely investigated. In most research, walking preferences are measured via a quantitative method by addressing street comfort, traffic, and size rather than the urban design qualities of the street, i.e. a qualitative approach. Hence, the project aims to identify the user preferences for walking in the Zindabazar area, a commercial street of Sylhet considering the urban designs qualities like enclosure, legibility, human scale, transparency, complexity, coherence, linkage, and imageability. Therefore, this research applied a questionnaire survey, conducted to analyse the relation between walking preferences and urban design qualities of the commercial street. After collecting Likert scale data, Linear and multiple regression models were used to analyse it. Regression analysis was conducted to identify the relation between urban design qualities and user preferences for walking on the proposed street. The research identified that walking preferences of user are not significantly associated with all the factors of urban design qualities except legibility, transparency, and human scale. The research will help identify the poor and significant urban qualities of the street(s) which need to be modified to improve user preferences.

Keywords: urbanization, mobility, urban design qualities, walking preferences, Zindabazar

INTRODUCTION

Among all other transportation systems, pedestrian walking is the only way from which a human can get health, social, and environmental benefits. As a major category of urban structure, a pedestrian way interconnects various land uses by human foot and acts as the edge of the district as well as an interface between public and private property. As a significant urban space, a pedestrian way is a memorable element in cities (Woolley, 2003) where people move on and compose their mind map about the city that generates an attractive image in a people's mind and contains numerous kinds of apparatus for walking, refreshment, retailing, communication, lingering, aggregation and interchanging the cultural affairs. Various research show the relation between walkability and the physical features of the street which can be measured objectively. Mostly the preference for walking has investigated the element of the street but preference also includes the perception developed by the quality of the street (Ernawati et al., 2018). The improvement of the physical element may enhance the preference to walk but could not satisfy the perception of an individual completely. The perception may vary from person to person which can be measured subjectively. Ewing and Handy (2009), and Purciel and Marrone (2006) have developed a comprehensive method to measure the urban design quality of the street by the perception of the mediator in a quantitative way.

In Bangladesh, presently no research has been conducted yet that would focus on the urban design quality of the street to promote walkability. Therefore, a significant research gap in the field of urban design to understand the relation between walking preference and the design quality of the street, is quite evident.

Sylhet is a city in north-eastern Bangladesh and the land is of religious and natural significance. But the scenario of poor pedestrian quality is also a major problem similar to other cities in Bangladesh. Due to the growing trend of urbanization, infrastructure development took place to meet the demand in Sylhet. The Old Street is getting wide, a pedestrian way is placed beside the street, and a new drainage line has been installed. However, these changes in physical features greatly affect the on-street environment. In this paper, the authors have discussed the characteristics of urban street quality and their connections which have underlined the user preference during walking within the proposed study area.

Conceptual framework

The research is based on the concept derived from Ewing and Handy (2009) shown in Figure 1. The figure shows a linear relation between walkability, physical features, urban design quality, and user perception of the urban streets. The user reaction depends on physical features and urban design qualities. However, urban design qualities are diverse from individual reactions like the sense of comfort, sense of safety, and level of interest (Ewing, Handy, 2009). It reflects individual reaction and assessment of a place but perceptions are simply perceptions. Mostly, the research aimed to identify the walkability of the streets considering physical features which is an objective measurement process. Urban design qualities, composed of physical features, an intangible character, remain undetermined in the research. Therefore, this research purposes to understand the relationship between urban design quality and user reaction.

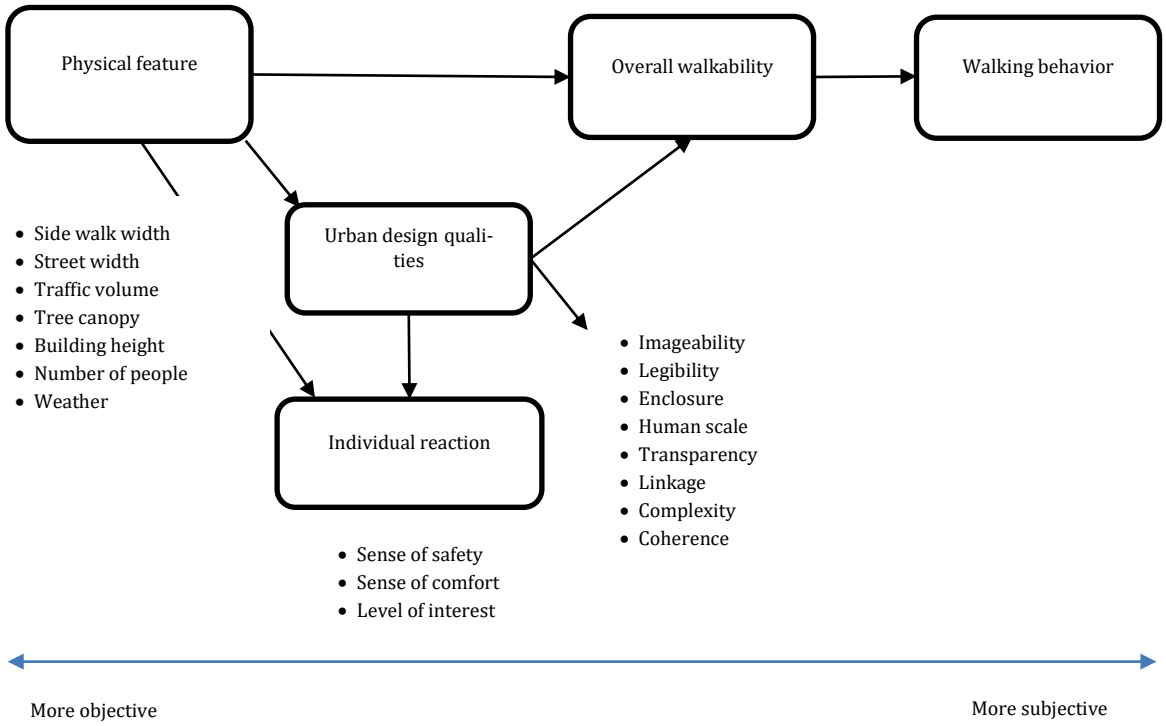

Fig. 1. Conceptual framework. (Source: Ewing, Handy, 2009)

Scenario of the case study area

The case study area is a segment of a major artery of the Sylhet city (in Bangladesh) situated beside the old central business district (CBD) which connects the southern part with the north one. It is considered an old commercial street of Sylhet. Consequently, several post-colonial market and old heritage buildings are located on Zindabazar Street. The street is connected with the east and west artery in the Chawhatta node (see Fig. 2). Since the street accommodates old small retail businesses to modern shopping malls, so the composition of different urban forms and buildings is quite evident (see Fig. 3). The research area starts from the Zindabazar node to the Chawhatta node where few cross-road connections are available (see Fig. 4). Most of the land around Zindabazar is used for commercial or business purposes. Besides, the street accommodates public places like Shahid Minar, old heritage buildings, restaurants, hospitals, several educational institutions, and other public amenity services (see Fig. 5).

Fig. 2. Location of the case study area. (Source: Google Earth, modified by the authors)

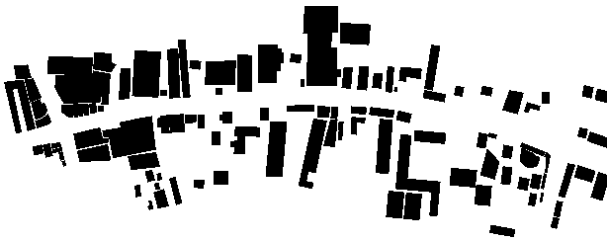

Fig. 3. Figure ground map. (Source: authors)

Fig. 4. Existing road network. (Source: authors)

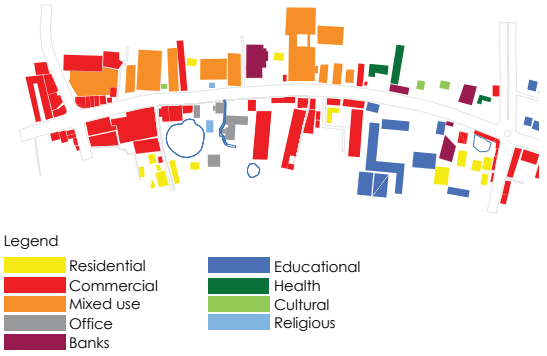

Fig. 5. Existing land use map. (Source: authors)

Fig. 6. Image of Zindabazar Street. (Source: authors)

LITERATURE REVIEW

Significance of street as public space

According to Carmona in 2013 and Jacobs in 2016, we can examine the function and form of streets in terms of their qualities which gives scope for great diversity: visually dynamic or visually static, enclosed or open, long or short, wide or narrow, and straight or curved. In addition, it is stated that the main public spaces of a city are the most vital organs (Carmona et al., 2013). On the other hand, in 2014, Oranratmanee and Sachakul defined a street as the widest and most accessible public space that creates more possibilities for social activities and connections. It generates several multifunctional spaces and its role should be understood from various perspectives. Therefore, a street can be defined as a physical space, a channel of movement and a public realm, and lastly, as a place.

Street as physical space and channel of movement

Jane Jacobs (2016) mentioned that streets create a place of social interactions, vitality, and a sense of community. For thousands of years, streets have been the epicentre of the social, cultural, and economic life of the city (Engwicht, 1999). For determining the character of a street, movement is the most important feature (Telford, 2007); in this way, the main and primary purpose of a street is easy accessibility designed for both traffic and pedestrian movement. Although these two kinds of street movements are for circulation only, Jacobs (1961) defines that both of them have possibilities for social interactions and cultural exchanges, for example window shopping; a talk with a friend: this is true for the pedestrian movement and is lacking for vehicular movement, unless the car is parked. On the other hand, public spaces like an urban square give a visual static attractiveness while streets are visually vibrant which creates a sense of movement. As a channel of movement, streets have several functions, such an instant one—it connects one place to another; and these are used by people to move from one place to another whether on foot or by car (Sholihah, 2005; Sammas, 2008). It also provides a link between buildings, both within the street and in the city at large. The researchers have identified various activities regarding the use of streets as a channel of movement (see Tab. 1).

Tab. 1. Functional uses of the street. (Source: Sammas, 2008; Sholihah, 2005; cited: Eichner, Tobey, 1987; Obeidy, Shamsuddin, 2017).

▪ Vehicular Circulation	▪ Emergency vehicle
▪ Through movement	▪ Pedestrian Circulation
▪ Picking up/dropping off passengers	▪ Through movement
▪ Curb side parking	▪ Waiting for, boarding and alighting from vehicles (buses, taxis, cars)
▪ Access to parking	
▪ Buses	▪ Entering and leaving subways
▪ On-street service	▪ Crossing streets
▪ Off-street service	▪ Entering and leaving buildings

Urban design qualities of a street

Imageability is a word that means the physical features of an urban design that define its uniqueness within its environment, a sense of place that permits its inhabitants to define it, and an aspect in determining the quality of space by eliciting powerful, lasting memories. The capacity of any physical thing to elicit a solid image for any particular observer by presenting instrumental and relevant mental pictures or patterns is referred to as its imageability (Ewing, Handy, 2009). Imageability is a quality of a physical environment that evokes a strong image in an observer: *"It is that shape, colour, or arrangement which*

facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment." (Lynch, 1960)

Legibility is a perceptual quality that enables easier navigation and more accurate mental images of a place by recognizing its spatial fabric. Visual terminations focus on the community, as well as put a definite endpoint to streets to keep them from going on forever (Duany, Plater-Zyberk, 1992). *"Since they have to start and stop somewhere, these points should be well marked."* (Jacobs, 1993)

The term "enclosure" refers to the extent to which streets are enclosed. Buildings, walls, trees, and other vertical features create and define public areas aesthetically. It has a distinct and definite shape, as definite as the shape of important as the shapes of the buildings which surround it (Alexander et al., 1977). Some configurations of structures create highly three-dimensional environments (Hedman, 1984).

The human scale is a term that narrates how individuals view a location. It is connected to the overall enunciation of a physical area and the distance of time required to understand a particular quantity of information, and it bases its standards on typical human comfort measures. Personal interaction distances have a role in human-scale design. These lengths are as follows:

1. Intimate distance 0–1.5 ft (about 0-0.5 m)

2. Personal distance 1.5–4.5 ft (about 0.5-1.3 m)

3. Social distance 4.5–12 ft (about 1.3-3.7 m)

4. A person's face is only recognized at a distance of 70 feet (about 21 m), a loud voice can only be heard at a distance of 70 feet, and a person's face is only recognizable in portrait-like detail at a distance of approximately 48 feet (about 15 m) (Gehl, 1987) and (Alexander et al., 1977).

Transparency denotes the degree to which people may understand or perceive human activities beyond the edge of a highway or other public space. Transparency is a precondition for openness. It mentions two separate architectural elements: the capacity to look beyond the street boundary and the existence of indications of tenancy beyond the street edge (Polívka, Reicher, 2019). Allan Jacob stated that *"Streets with many entryways contribute to the perception of human activity beyond the street, while those with blank walls and garages suggest that people are far away."* (Jacobs, 1993)

In urban planning, coherence refers to a sensitivity to the visual directive or the systematic preparation of physical things in the atmosphere. Coherence is the constancy and complementarity of the building components of a cooperative form in scale (grain) and setting close interaction (Alexander et al., 1977) and (Ewing et al. 2006). Coherence in architecture is as, *"buildings on the best streets will get along with each other"* (Jacobs, 1993).

Linkage is an urban design word that refers to the lines that link different components of the urban environment. In essence, it is the design of a spatial datum that encompasses the *"flow of movement, and organizational axis, or a building edge"* (Trancik, 1986). *"The continuous tree rows can psychologically connect places at either end, and tree patterns that reflect or amplify building geometry can psychologically link buildings to the street."* (Arnold, 1993) The visual richness of a location is determined by its complexity. It has been related to changes in texture, width, height, and setback of Buildings (Elsheshtawy 1997). Complexity has been related to building shapes, articulation, and ornamentation (Stamps, 1999; Heath et al., 2000).

RESEARCH METHODOLOGY

The conceptual framework shows how walkability relates to physical features, urban design qualities, and user reaction. Both qualitative and quantitative methods were adopted to conduct the research. At first, a comprehensive visual assessment of urban streets is conducted to determine urban design qualities.

Identifying the qualities of urban design

In the literature on urban design, several qualities have been described that influence the walking behaviour in the street. In addition, visual assessment literature also added numerous quality insights which help perceive the environment of an individual. The quality of visual assessment crosses the boundary of urban design to another field of study including landscape and planning as well. However, all qualities from visual assessment literature and urban design literature are not well connected to a walkability study. In 2009, Ewing and Handy narrowed the range down from 51 qualities to 8 qualities: enclosure, legibility, human scale, transparency, complexity, coherence, linkage, and imageability.

Preparing a sample of users

The target of the study is to conduct a visual assessment where users can rate the urban design quality of the street and also measure their reactions. Since the definition or description of the quality of urban design are not well known to an average person and it is quite difficult for a random user to rate legibility, imageability, and other qualities without having any knowledge of urban design or a related subject. So, a group of undergraduate students from architecture school was selected as respondents who already completed an urban design course and terms such as urban design qualities and other design principles are well known to them. As local students, they already spent four to five years in the Sylhet city and are experienced with the morphology of the case study area. However, a visual scenario was provided by capturing photographs of the street. There were about 60 students (35 male and 25 female) who participated in the rating.

Preparing sample pictures for visual assessment

This is necessary to provide a clear scene of the case study area in front of the users during rating. Firstly, the study areas are divided into 12 segments so that every piece of information in street can be captured through photographs. The photographs are taken at similar distances, maintaining equal height so the vista or scale of the street remains unchanged. In addition, a video of the overall site was also collected for live documentation, activity, and the environment of the location. Multi-layer mapping of the case study area has been drawn on several urban design issues within the street to understand the urban design quality for the user perception.

Measurement of urban design qualities (questionnaire survey)

Firstly, the visual assessment is conducted by an online self-administrative questionnaire survey. There are three major parts of the questionnaire survey—demographic data, the evolution of urban design quality, and respondent reactions such as safety, comfort, and level of interest in walkability within Zindabazar Street. Five scale measurements of the Likert scale ranging from 'strongly disagree' (value 1) to 'strongly agree' (value 5) are defined to regulate the urban design quality of the street by the respondent. Eight urban design qualities have been preferred based on the previous study—imageability, legibility,

enclosure, human scale, linkage, coherence, complexity, and transparency. For instance, the respondent was asked *"How do you rate the imageability of Zindabazar Street?"* Here, they had to rate it on a five-point measure of the Likert scale where value 1 defines that the character "imageability" strongly exists in Zindabazar Street whereas value 5 denotes that imageability is not apparent at all. Respondents were accountable to fill up the questionnaire form by using photographs, mapping, and several video scenes. However, respondents are also in control to rate the reaction on comfort, safety, and preferences of walkability in Zindabazar Street ranging from the 'least preferred' (value 1) to 'most preferred' (value 7).

Data analysis

The research performed a statistical model to identify the relationship between the urban design quality and people's overall preference for walkability. It is assumed that user preference for walking is dependent on urban design qualities. Hence here, walking preference is a dependent variable whereas design qualities are independent. Walking preference may be associated with multiple factors so multiple regression model has been used to analyse data. Multiple regression models are represented by: yi = a + b1x1 + b2x2 + … + bixi + ei, where yi represents the dependent variable, xi is the independent variable, a is the y-intercept or constant, it is considered the residual prediction error, b1 is the partial regression coefficient on x1, similarly, b2 is on x2. In addition, the models are used to understand the relation between urban design qualities and people's comfort, security, and overall preferences in the urban street.

RESULTS

Experience and walking culture of Zindabazar Street

Since Zindabazar is the major business centre and retail hub of the city, many people move through the street every day (Fig. 6). Current pedestrian capacity is inadequate compared to its human traffic flow therefore people often like to walk in the vehicular street (Fig. 7), although the city authority has recently widened the pedestrian way, decorated the sidewall and removed street vendors (Fig. 8). According to users, walkers use the street for their daily needs rather than their preferences. Being a major business street, most people move because of their daily job. In addition, this street is the connector between the north and south parts of the city, therefore heavy human traffic passes the street every day. In Sylhet, people depend on vehicles rather than walking to cover short distances due to adequate walkways, safety for children and women, and universal accessibility which consequently cause massive traffic congestion.

In Zindabazar, several restaurants, retail outlets, shopping malls, education institutes, and public buildings generate tremendous pressure on pedestrians. Since there are no comprehensive building code and guidelines that results in massive public buildings with minimum set back from the street. Therefore, buildings' overcrowding often spreads to the pedestrian ways; even sometimes roadside shops overflow the pedestrian and hinder the walkability (Fig 9). Small-scale open platforms or plazas in front of public buildings and shopping malls could resolve the pressure on the street. High land value is another reason that prompts the maximization of the use of land.

Excessive privatization in the Zindabazar area impedes the street development process initiated by the city authority. It is easier to redevelop or redesign any public space rather than private space due to ownership complexity. Though the city authority has developed road side walls for government institutions and other public spaces they hardly can design other private spaces. Therefore, a comprehensive street design always remains incomplete. It is important to have a quality walk to percept the context in mind and memory. Quality walking is necessary to socialize with others and benefit individual health. Zindabazar Street is one of the key points of interest for locals and tourists. It also accommodates some major public facility buildings and spaces. But due to unplanned development, the street can hardly offer social and recreational benefits to the passer-by.

Fig. 7. People walking on the vehicular street. (Source: authors)

Fig. 8. Decorative road side wall developed by city authority. (Source: authors)

Fig. 9. Shops overflow on the pedestrian way. (Source: authors)

Urban design qualities analysis

The survey identifies that the user preference to walk in the street is not satisfactory. The mean score for walking preference is 3.88 on a scale of 7. Although the preference level is lower, the crowd of pedestrians might have resulted from the need and daily jobs. In addition, as a mixed land use zone, the area invites masses of people for different causes. This research identified that the urban design quality of Zindabazar Street is not potent enough to describe since the mean score of most of the qualities is below 3.5 where the score is measured on a Likert scale from one to five. Two of eight qualities have scored above 3.5 and they are imageability and complexity while other qualities like linkage, enclosure, human scale, legibility, and complexity have scored less than 3.5. The results shows that not all the urban design qualities are significantly associated with walking preference in Zindabazar Street. Only legibility, human scale, and transparency are significant while other qualities are not statically significant. The results shows the P value of legibility, human scale, and transparency is less than .05 which means these qualities are statically significant for walking preference and can be identified, while the P value of the rest of the qualities is more than (.05) (see Tab. 2).

The research also identified the correlation of each urban design quality with user preferences to understand the significance of each quality. The results shows that legibility and transparency significantly correlate with user preferences (p <.05) (see Tab. 3). It seems that other qualities where the p-value is too high, are not sufficiently considered for preference of walking in Zindabazar Street. On the other hand, physical features that improve those qualities are significantly missing. According to the concept of Ewing and Handy, individual reaction is also important and holds a criterion for walkability. The research attempted to understand the relation between user safety, user comfort, and user preference. The results shows that (Tab. 4) user preference is highly dependent on user safety and comfort. Here the "p" value for both user safety and comfort is less than (.02) (see Tab. 4). It means the user feels the safety and comfort of walking in Zindabazar are highly recommended.

Tab. 2. Correlation between urban design qualities and people's preferences for walking. (Source: authors)

Multiple R	0.544
R Square	0.296
Adjusted R Square	0.156
Standard Error	1.037
Observations	49.000

	Coefficients	Standard Error	t Stat	P-Value
Intercept	3.010	1.424	2.11	0.041
Imageability	0.018	0.224	0.07	0.937
Legibility	0.409	0.198	2.06	0.045
Human Scale	0.417	0.167	2.50	0.016
Transparency	-0.404	0.174	-2.32	0.025
Complexity	-0.007	0.149	-0.05	0.961
Coherence	0.024	0.149	0.16	0.871
Linkage	-0.152	0.173	-0.87	0.385
Enclosure	-0.102	0.181	-0.56	0.578

Dependent variables: users' overall preferences. Independent variables: urban design qualities.

Tab. 3. Correlation between urban design qualities, transparency, and legibility. (Source: authors)

	df	SS	MS	F	Significance F
Regression	1.0	5.0	5.0	4.2	0.04
Residual	48.0	56.2	1.1		
Total	49.0	61.2	6.1		

Dependent variable: users' overall preferences. Predictor: legibility.

	df	SS	MS	F	Significance F
Regression	1.0	4.05	4.05	4.80	0.03
Residual	48.0	40.53	0.84		
Total	49.0	44.58			

Dependent variable: user preference. Predictor: transparency.

Tab. 4. The relation between urban design qualities and user safety. (Source: authors)

Multiple R	0.71
R Square	0.51
Adjusted R Square	0.49
Standard Error	0.80
Observations	49.00

	Coefficients	Standard Error	t Stat	P-Value
Intercept	0.93	0.41	2.26	0.02
User Safety	0.33	0.13	2.49	0.01
User Comfort	0.72	0.15	4.70	0.00

Dependent variable: users' overall preferences. Predictor: safety and comfort.

The research has identified the impact of urban design qualities on user safety and comfort. The results shows that no quality has a potential effect on user safety and comfort. For user safety, from among eight qualities (see Tab. 2) only linkage is significant (p >.05) when it individually co-relates with user safety. Here user safety is considered a dependent variable.

Tab. 5. Relation between user preferences, comfort, and safety. (Source: authors)

Multiple R	0.47
R Square	0.22
Adjusted R Square	0.07
Standard Error	0.92
Observations	50.00

	Coefficients	Standard Error	t Stat	P-Value
Intercept	1.61	1.24	1.30	0.20
Imageability	-0.18	0.19	-0.92	0.36
Legibility	0.18	0.17	1.04	0.30
Human Scale	0.19	0.15	1.26	0.21
Transparency	-0.28	0.15	-1.84	0.07
Complexity	0.16	0.13	1.20	0.24
Coherence	0.12	0.13	0.90	0.37
Linkage	0.28	0.14	1.91	0.06
Enclosure	-0.08	0.16	-0.51	0.61

ANOVA

	df	SS	MS	F	Significance F
Regression	1.00	4.05	4.05	4.80	0.03
Residual	48.00	40.53	0.84		
Total	49.00	44.58			

DISCUSSION AND CONCLUSION

The results of the research determines an idea on the urban design qualities of Zindabazar Street and the relation of these qualities with user preferences. Urban design qualities are not significant to stimulate the walking for pedestrians. It seems most of the people use this street for daily jobs and needs. As a major street of the city and commercial hub, it welcomes masses of people all day long. Though the Sylhet City Corporation has initiated some interventions such as widening roads, road dividers, and pedestrian improvements, these physical changes had little effect on the urban design qualities. The results proved that three qualities i.e. legibility, transparency, and human scale are significant. This research found five qualities among eight that have no significance on user preference on walking on Zindabazar Street. If imageability is a concern, the street has no physical element which can be identified with it for memorization for a long time within this area. The physical elements and design motivate urban design qualities which are perceptual, although there are differences in perception conditioned by age, sex, and other social impacts of the human being. Here, urban design qualities are examined as the variable for user safety and comfort. The results shows that there is no sign of the qualities of the two variables. It appears that user safety and comfort mostly depend on the physical quality and management of the street.

The research found a significant gap in street management, design, and building regulation guideline. Excessive privatization of land is another hindrance to the improvement of the pedestrian ways. A long-term vision can be generated to develop the street by ensuring building guidelines, street facilities, and street management. The vision should be aligned to the urban design qualities. Government can take initiative to make a policy by a public-private partnership to intervene in more quality facilities and environment in Zindabazar Street. In addition, open spaces, old heritage buildings, landmarks, and monuments can be connected visually or physically to improve imageability. Several internal connections can be drawn to increase linkage. Multilevel connection and vehicular free access can be developed. For better transparency, the street should be vendor-free and the street furniture needs to be improved. Although the human scale and enclosure depend on the individual perception, apart from pedestrian ways, the street needs a clear vista from starting to an endpoint and some pocket space with street furniture to relax or stay for a while. Vegetation, pedestrian material, street furniture, and barrier-free visual access can stimulate users to walk in Zindabazar. As a public space, the street is an important element of the city where people can explore urban aesthetic, cultural, and social benefits. Urban design qualities can add more dynamic to city aesthetics and influence walkability.

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On the incompleteness of mutation: Introduction to Pretoria Regionalism

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Abstract: This article aims to make the European professional audience acquainted with the architecture of an important southern African city. Additionally, the author hopes to familiarise this audience with the cultural nuances and character of this city, while trying to maintain distance as a native of the city. South Africa is famous for its significant natural and wildlife treasures. Internationally the history of this country's politics and developing democracy are also well known. From famous political leaders overcoming the harsh and hateful *Apartheid* laws to more world-renowned medical practitioners performing ground-breaking medical procedures: the impact of South African global contributions cannot be overlooked. However, there is significant oversight in the appreciation of the architecture and analyses of the urban conditions in the country. Pretoria is the administrative capital of the Republic of South Africa and contains a substantial *oeuvre* of built works that is testament to the numerous international and local cultural influences. Thus, it was deemed necessary to present the architectural and artistic responses from the modernist period (late 1920s – 1970s). The Pretoria Regionalist style, sometimes styled as the Third Vernacular, is a contextually inspired, and unique Transvaal-esque mutation of the machined and purist aesthetic of the Modernist Movement (1920s – 1960s). This architectural oeuvre is presented within the historical context of the founding and evolution of South Africa. Hence, eight contextually appropriate and architecturally significant edifices representing the modernist architecture of the early 20th century are broadly discussed.

Keywords: South Africa, Pretoria Regionalism, vernacular architecture, modernist architecture

FROM KERKPLAATS TO CAPITAL CITY

Pretoria's urban design layout, as a physically planned manifestation of the *urbs quadrata*, is an observation that can be made about the conception of the city, and it also happens to be the title of an article written by Gerrit Jordaan in the Architecture SA journal (Jordaan, 1989). The *Voortrekkers*, farmers and pioneers who were mainly the descendants of landless Dutch immigrants that left the Cape Colony and travelled deeper inland in the country, in a series of *treks* between the period 1830 – 1840 to escape British rule, established Pretoria-Philadelphia (1855). This rural city was initially a *kerkplaats*, a church yard and marketplace where farmers from the surrounding areas could sell their produce, trade goods and attend church. Jordaan continues this allegory of the *urbs quadrata* by examining the visual and physical manifestation created by the grid-like urban plan that is embraced and contained by the mountain region. He explains the concept of placemaking in Pretoria to be considered along strong cultural, contextual, and universal aspects. Jordaan continues this observation through the following analogy: The intersectional point of Paul Kruger Street and Church Street, with the centrally placed church building surrounded by the *"mandala"* of universal aspects is a motif that is seen repeated in the design of the later Church Square and the general consideration for the urban planned expansion of the city. (Jordaan, 1989) Thus, as the city expanded, so did the melange of architectural styles and periods. This phenomenon creates a unique visual timeline of the lifecycle of the city. Residential neighbourhoods were designated and then planned – beginning to break away from the strict *cardo-decumanus* grid planning. More recently, the city expanded even further – haphazardly and without proper and contextually appropriate urban planning – and for a great part of its life cycle, it expanded because of deliberate politically-oriented planning. Today the city is incomplete and decentralised – the economical centre, which was also once the historical centre of the city, has moved to the new eastern suburbs for safety reasons. This urban and social mutation counteracts most attempts at rectifying the situation. For ease of reference and to contextualise this introductory statement, it is essential to provide an abridged visual explanation of the history of South Africa and the conditions that led to the establishment of the capital city, Pretoria.

When Pretoria was established in 1855, the city was merely a datum point, or a congregational space – even though it had always been the intention of the *Voortrekkers* to establish a new

capital city. The central point was the church building, with a surrounding marketplace, where farmers from the surrounding areas could sell their produce, trade goods and attend church services (hence in Dutch, *kerkplaats*). The current name Church Square is a reference to the centrally located church that once occupied this space. As the population increased and the demand for a more organised space grew, the community leaders designed a neo-classically styled urban grid layout. It is widely understood in South African history that the city streets were designed to have a certain width, so that they could accommodate the length and manoeuvrability of a team of oxen pulling a wagon. The historical city centre contains building styles from various periods, such as the neo-classical period (mid-18th – 19th century), Victorian and Edwardian eras (1837 – 1914), the modernist period (1920s – 1970s), the post-modern movement (1980s – 1990s), and contemporary styles.

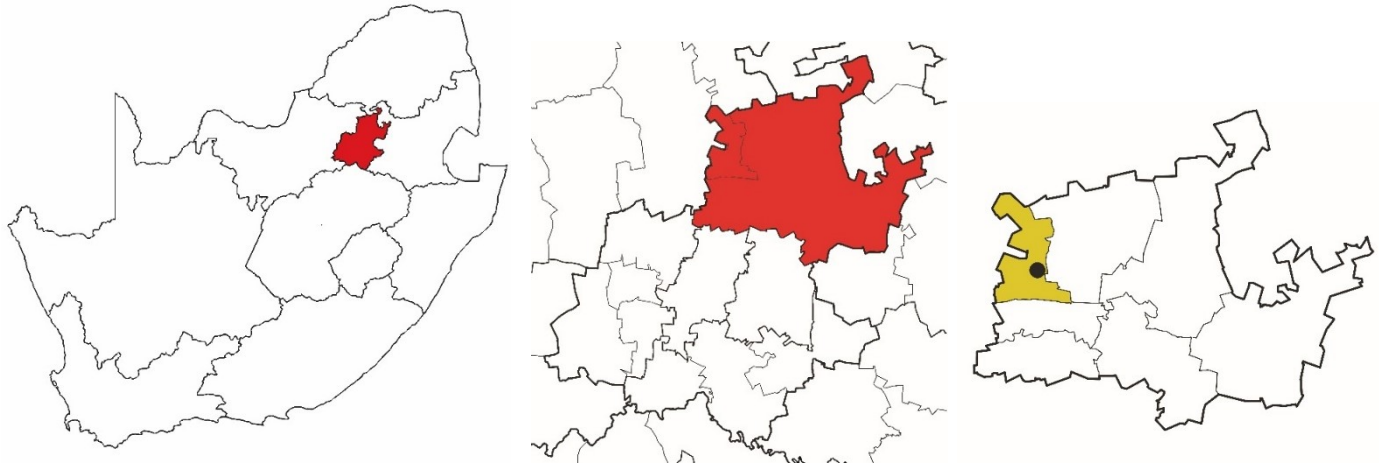


Fig. 1. Contextualizing the city within the African landscape. Map of Pretoria in relation to its position in Africa. (Source: Cornelius van der Westhuizen, 2018)

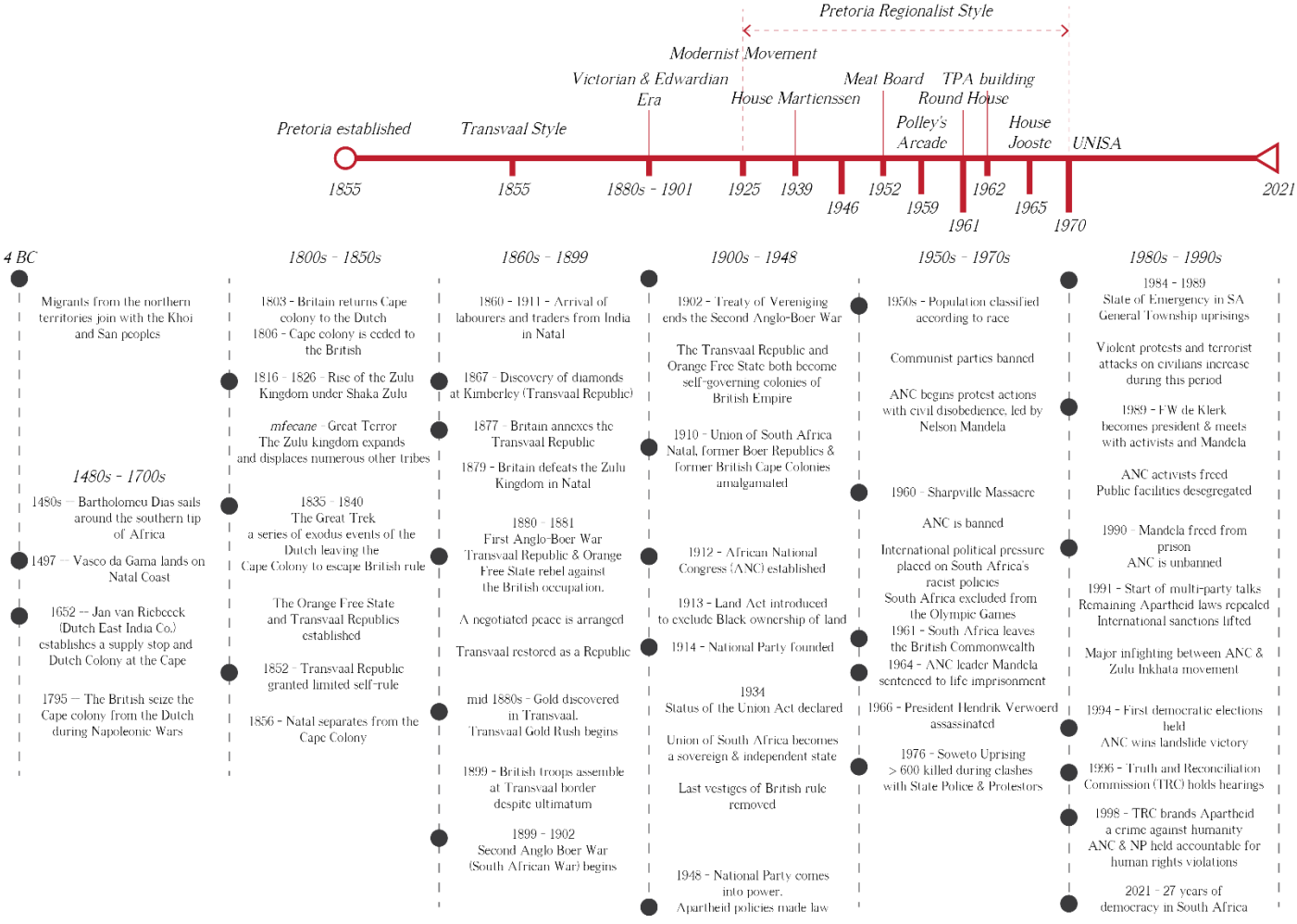


Fig. 2. Abridged historical reference timeline of South Africa. (Source: Cornelius van der Westhuizen, 2021)

However, to keep the introduction and analyses relevant – the proposed focus is on the most significant areas synonymous with the unique regional modernist movements in Pretoria. Hence this article will focus on buildings in the areas surrounding Church Square (the historical centre of Pretoria), as well as an additional contextualised and select few buildings that are significant to the development of the regionalist vernacular. It is important to note that the modernist movement in Pretoria was heavily influenced by the establishment of the Bauhaus in Europe, the predominantly European education of the South African architects, as well as the influences from Brazil in the Post-War era. Many of the South African architects under discussion travelled to Europe during the interwar years (1920s – mid 1930s) to study under Le Corbusier or Walter Gropius and take part in the *Congrès Internationaux d'Architecture Moderne* (CIAM). To that end, the proposed buildings for this article are as follows:

i. The Netherlands Bank Building (Nedbank), Church Street, Pretoria; Norman Eaton, 1946 – 1953

ii. *Vleisraad Gebou* (Meat Board Building), Hamilton Street, Pretoria; Helmut Stauch, 1952

iii. Polley's Arcade, Wachthuis Building, Church Square, Pretoria; Norman Eaton, 1959

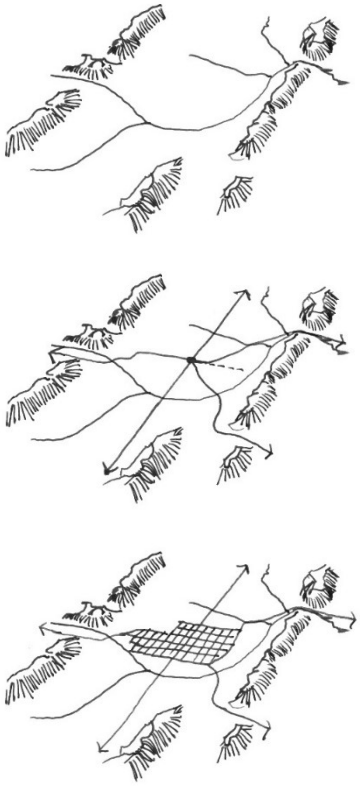
iv. Round House, Eastwood Street, Pretoria; May von Langenau. 1961

v. *Kleinteater* (Little Theatre) and The Serpentine Wall, UNISA Pretoria campus, Skinner Street, Pretoria; Norman Eaton, 1961

vi. Transvaal Provincial Administration Building, Church Square, Pretoria; Meiring Naudé, van Dyk Architects, 1962

vii. House Jooste. Aries Street, Pretoria; Karl J. Jooste, 1965

viii. UNISA Pretoria campus, Muckleneuk, Pretoria; Brian Sandrock Architects, 1970s



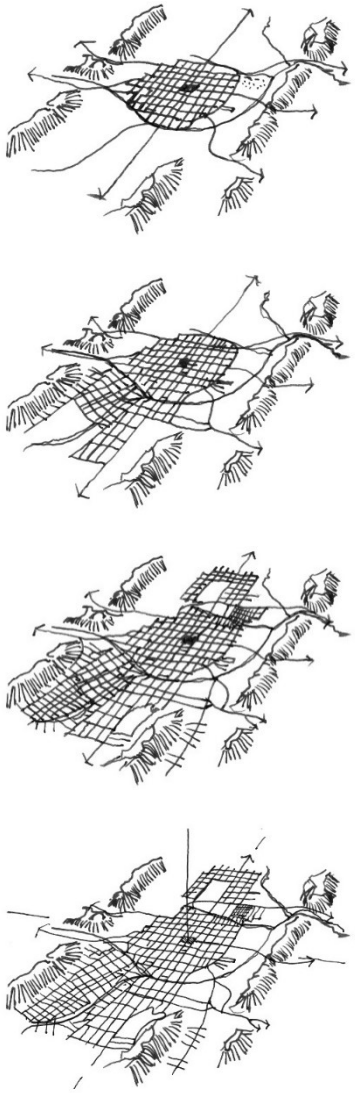


Fig. 3. Diagrammatic expression of the planning principles of Pretoria. (Source: Jordaan, 1989)

THE THIRD VERNACULAR

The academic circles of South African architects consider the brief regional inspired Modernist Movement (1920s – 1960s) to be the Third Vernacular. At this point, it is necessary to clarify the use of the term vernacular in the context of this article: a place specific architecture created by (traditionally) employing locally available materials and a strong contextually responsive driven solution to the extant site conditions. This definition and understanding of the expression vernacular is accepted as the primary definition, as analysed and put into writing by Roger C. Fisher, thus taken from the architectural compendium, Architecture of the Transvaal. (Fisher, 1998)

South African architectural writers hold that the indigenous peoples' architecture is the zero vernacular. This does not disregard, nor does it downplay the value and significance of the indigenous architectural knowledge. It provides a reference point for the development of the subsequent regionalist architecture that evolved later. Professor Gerald Steyn considers that the term *Africanist* architecture, is used to describe something that is from, and of Africa, and thus acknowledges that place and builders. Their skills, and thus by extension, architectural technologies are thus rooted in vernacular traditions and contextualisation. (Steyn, 2014)

The architectural responses first introduced by the Dutch colonists at the Cape Colony are termed the first vernacular (1652 – 1890s). This style is characterised by being climate responsive and region based. Robust materials and strategic planning created optimal living spaces for highveld living. (Fisher, 1998) Subsequently, as the *kerkplaats* expanded and became more formalised this vernacular mutated the principles of neo-classicism into a style that is generally considered to be indicative of the Transvaal Style. The use of local materials and climatic restrictions is what makes this style so unique. Dutch architect Sytze Wopkes Wierda (1839 -1911) was responsible for the architectural and urban identity of the newly founded *Zuid-Afrikaanse Republiek* established in 1852 (New South African Republic – generally abbreviated to ZAR, was the name given to the three independent Boer Republics that were established after the Great Trek, namely: the Orange Free State, the Natal Republic and the Transvaal Republic). His projects include the *Raadsaal* (1890) (city hall), the Palace of Justice (commissioned mid 1890s), as well as the establishment of the first formal Public Works Department (1877).

The second vernacular is accepted to include the Georgian, the Victorian (1837 – 1901) and later the Edwardian architectural styles (1901 – 1914) imported by the British during their occupation of the Transvaal. Again, the architectural principles characteristic of this period remain prevalent but are transformed through the use of local materials and the local knowledge of craftsmen. The buildings were mostly constructed from prefabricated materials, such as corrugated sheet metal panels and timber or iron columns. (Fisher, 1998) Because of the distinct lack of heavy industrialisation in the Transvaal Republic, timber and stone were usually typical replacements for structural elements, however, the stylistic and built architectural principles remained mostly true to the original. This period (1890 – 1914) saw the greatest planned and structured urban densification of the city centre.

Naturally, as the population of Pretoria grew with more European immigrants moving to the Transvaal Republic, building styles imported from Europe would influence designs and take up their place in the city. In the historical city centre, the area around Church Square especially became more formalised and densified. Neighbourhoods would be designated and planned in the spirit of their relevant architectural styles. It is worth noting that unlike Johannesburg, and by extension most other colonial cities at that time, Pretoria was not built as a result of industrialisation and resource exploitation. For most of its formative years, the greatest number of its surroundings were farms. It was an important nexus for trade and the seat of power for the Boer Republics and later, after the two Boer Wars (a term modern academics have now dubbed the South African War) the administrative capital of the British South African colony.

During the mid-1920s, and around the same time as the Bauhaus School was established (est. 1919) under Walter Gropius, a new group of young South African architects emerged. Chief among them were Gordon Leith (1886 – 1965), Rex Distin Martienssen (1905 – 1942), Norman Musgrave Eaton (1902 – 1966), and Karl Jooste (1925 – 1975). While accepting the tenets of the new modernist movement, the architecture that evolved from this was more place specific. Thus, the Pretoria Regionalist style came into existence. The buildings followed the functionalist layout of planning, the purist aesthetic and honesty of the new building materials – but the style exempted itself from being part of the so-called proposed international style because of its concise use of local crafts and materials and climatic design considerations. In summary, every region of South Africa would evidently produce modernist style buildings that would be the same in spirit, but the variations would be tangible. A quick example of this may be considered: Norman Eaton designed a number of Nedbank branches throughout the Transvaal (modern day Gauteng and North-West provinces) and the Natal province (now known as Kwa-Zulu Natal). Although the branches shared similar planning and design methodologies, an almost familiar "look and feel", the Natal branch designs were visibly different because of the tropical climatic design responses that the region necessitated. Some notable differences included an over-exaggeration of the *brise soleil* roof canopies and greater attention to the articulation and positioning of breeze-blocks.

After the Second World War, the primary influence on the Pretoria Regionalist style came from an unexpected trans-Atlantic source – namely, Brazil. Norman Eaton, during his travels to Brazil, religiously kept a diary of all his experiences and inspirational encounters with the works of Oscar Niemeyer and the artist Roberto Burle Marx. The Brazilian Modernist movement, which had visibly deviated from the rigid International Style, favoured the use of more organic forms, and had found a foothold with the Pretoria architects of the time. (Pienaar, 2017)

Fig. 4. Church Square today, photograph taken from the balcony of the Palace of Justice. (Photo: Cornelius van der Westhuizen, 2022)

CHARACTERISTICS OF PRETORIA REGIONALISM

Roger C. Fisher characterised the core principles of the Third Vernacular, even though each climatic region would have different requirements. A Pretoria Modernist building would display:

- an acknowledgement of the prevailing climatic constraints that influence the requisite shading and sun-controlled devices,

- each region would employ the work of local craftsmanship, thus "sacrificing" the crisp, clean lines of the "machine aesthetic"

that would dominate the European and north American movements,

• the use of traditional materials, thus encouraging an innovation of what was locally available to mimic the industrially produced materials,

• and most importantly, the architect (and by extension the design) should display a sensitivity to the existing topographic conditions of the site, or region.

It was generally understood among the early architects that this architecture creates buildings that are "earth-bound" and not necessarily freed from the ground with *pilotis* or columns, as was the general stylistic response.

It is the opinion of the author that, in many ways, the Third Vernacular was a further development of the neo-classical Transvaal Style, in its use of site-specific materials and advanced brick-work techniques.

The aspects which characterise Pretoria Regionalism are identified in chapter six, The Third Vernacular, of the compendium, *Architecture of the Transvaal*, and listed below (Fisher, 1998):

• traditional plan forms,

• rustic brick (either raw, exposed bricks, or whitewashed),

• low-pitched iron roofs,

• deep shaded eaves and verandahs,

• sun-shy windows,

• sensitivity to landscape and natural land features,

• an architecture responsive to climatic constraints.

To contextualise the characteristics of this architectural language, an appraisal of the building materials is necessary. Pretoria, not unlike Johannesburg and Bloemfontein, has a strong tradition of building with bricks. For example – the red clay fired bricks and large sandstone blocks used in the Raadsaal (Wierda, 1890) and Palace of Justice (Wierda, completed early 1900s), as well as the original *Nederlandse Bankgebouw* (de Zwaan, 1896) that frame Church Square evoke an almost pseudo-European character, but this aesthetic is only achieved by using locally available materials. Civic buildings, schools and in some instances a handful of churches were built using this material scheme. Even today it is still an impressive display of master craftmanship. An observation about the external factors that may have influenced the Pretoria Regionalist *motif*: Norman Eaton (1902 – 1966) had a penchant for the arts, poetry, and idealism in his architectural work – it is well documented through personal journals and letters that Eaton had a close inner-circle of friends and acquaintances who were mainly artists.

Eaton, as well as his mentor, Gordon Leith (1886 – 1965), were born, raised, and educated in Pretoria. Fisher offers insight in his article about Norman Eaton and the influences that guided the architect's design thinking. Fisher suggests that Pretorians have a unique sense of place, or *genius loci*, because of their migrant farmer stock ancestors. This can explain their strong connection to the landscape through both their history and their enterprise. (Fisher, 1997) He summarises this speculative interjection with the conclusion: Eaton and his contemporaries – both artists and architects alike – would have been confronted with the most powerful and impressionable forces of local circumstances that mould the creative mind – the African landscape. (Fisher, 1997) The architectural language developed by Eaton and his contemporaries was not only cultural and socially oriented – the natural world would inspire and influence their works. The author would like to suggest here that a golden thread may be drawn between the various vernaculars: regardless of cultural heritage, the landscape is what most particularly inspires the creative mind.

Fig. 5. Interior of the Palace of Justice in Pretoria. (Photo: Cornelius van der Westhuizen, 2022)

ANALYSIS OF SELECTED BUILT PROJECTS

This portion of the article will condense and in broad strokes analyse the projects by some of the proponents of the Pretoria Regionalist style. These projects were selected for their unique architectural responses to the regionalist doctrine and best reflect this modernist movement. To elaborate: the selected built projects are so listed to create a chronological and physical timeline of the development of the Pretoria Regionalist style. Each of the projects serves as an example with the following attributes:

• a built, physical structure with its greatest part still existent and unaltered,

• a unique response to the regionalism of Pretoria, and the site,

• the architectural product best provides detailed characteristics of the Third Vernacular.

The Netherlands Bank Building (Nedbank), Helen Joseph Street, Pretoria; Norman Eaton, 1946 – 1953

The building that, in the author's opinion, best expresses the tenets of the Pretoria Regionalist style. Pretoria's built character

has always been exemplified by the use of bricks in construction. The Nedbank group was expanding in South Africa at the time, and their offices on Church Square were no longer sufficient. Eaton proposed an office block further down Church Street, constructed entirely out of brick. The six-storey building made use of the typical Modernist proportioning systems – but the architect requested specially manufactured bricks to construct the delicately patterned façade. The ground level entry is clad in local marble, reminiscent of a robust public ground level finish. This off-white pattern creates a striking visual contrast between the delicate and patterned bricks of the upper levels, and the ground level public interfaces. On the south-eastern corner, at the street level, the architect introduced a publicly available drinking fountain – that is still in use. What sets this building apart from its contemporaries is the architect's insistence on the use of traditional southern African patterns and themes throughout the detail work. The door handles are exquisitely shaped in brass to resemble traditional Benin figurines. The open-air area on the roof of the building features a free-standing brick winding wall that contrasts with the rigid overall geometry of the building mass.

Fig. 6.1. The Nedbank building in context. The facade showcases the deep set and sun shy window motifs. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 6.2. Brass door handle in the shape of a Benin Head figurine. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 6.3. The external fountain at pedestrian level, humanizing the architecture. (Photo: Cornelius van der Westhuizen, 2022)

Vleisraad Gebou (Meat Board Building), Hamilton Street, Pretoria; Helmut Stauch, 1952

This building, designed by German-born architect Helmut Stauch (1910 – 1970), is widely accepted as the first intentional introduction of the Brazilian Modernist movement into the city. The climatic design responses of Brazil could be sufficiently appropriated into the regionalist restrictions in Pretoria. The Meat Board building was, in some ways, an attempt at replicating the building of the Ministry of Health and Education in Brazil. Stauch appreciated the use of solar shading devices and the freeing up of the ground floor plan. The façade most accurately reflects the comparison between the two buildings. (Pienaar, 2017) Stauch synthesised a response to the "Brazilian design" by raising the office building from the ground, and he supported it on round concrete *pilotis* and extended the *brise soleil*. The roof featured a curvilinear roof garden and covered the spandrels (the eastern and western thick façades) with blue mosaic tiles. As was typical of the architect, the elongated rectangular building was religiously facing north.

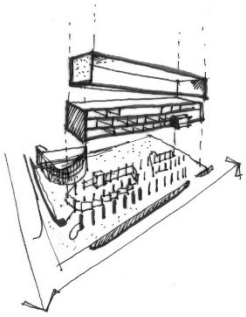


Fig. 7.1. The structural composition of the building, displaying the external concrete envelope, the internal floors, and the open ground plane. (Source: Cornelius van der Westhuizen, 2022)

Fig. 7.2. Street level interface and solar shading devices. (Photo: Cornelius van der Westhuizen, 2022)

Polley's Arcade, Wachthuis Building, Church Square, Pretoria; Norman Eaton, 1959

Pretoria's city blocks – because of the initial urban grid layout from the 1850s – are massive. The average urban block measures approximately 600m x 900m. Because of this, many buildings, especially those from the Art Deco period onwards, were built to form arcades that run though at various intervals, providing ease of access for pedestrians. However, largely due to the rapid motorisation of urban centres, these arcades started to disappear. Polley's Arcade is a thoroughfare at ground level that links Pretorius and Francis Baard Street underneath the *Wachthuis*, Police Headquarters (also designed by Eaton). What is significant about this arcade, however, are the finishes that were employed, as well as their symbolic application. Off-cuts from granite tombstones were appropriated and used to create the robust floor that is now synonymous with the arcade.

Fig. 8.1. The old Police Headquarters, the Wachthuis, a more machined and precise material finish. (Photo: Cornelius van der Westhuizen, 2022)

It is worth mentioning that similarly to Le Corbusier's later work, Eaton preferred to make art an integral part of his architecture. Evidence of this can be traced to his life-long friendship with Alexis Preller (1911 – 1975), a South African artist who made extensive use of African and modernist themes in his work. The use of textures and colour in this instance was not purely for decorative purposes, but may have had deeper symbolic uses – another unique recurring theme in Pretoria Regionalism. The resulting "urban carpet" displayed strong African symbolism and patterns. It was the intention of the architect that the arcade should represent and reintroduce the social space of a hotel (named Polly's Hotel) that had once occupied the site. Marguerite Pienaar argues that Eaton used this patterned and symbolism-laden design *motif* to give new meaning to surfaces. (Pienaar, 2017)

Fig. 8.2. Arcade and Central atrium space. (Photo: Cornelius van der Westhuizen, 2022)

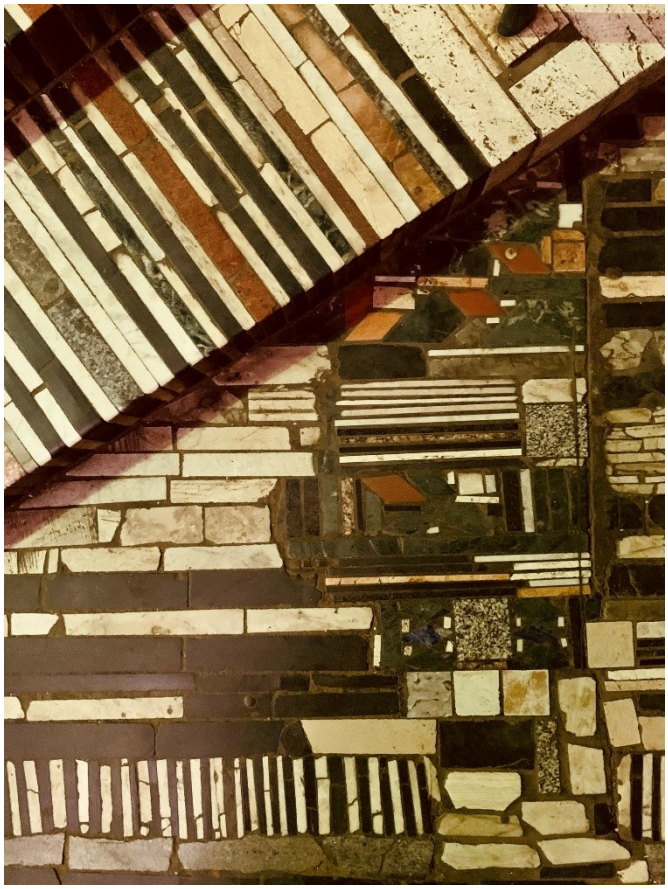


Fig. 8.3. Floor pattern detail. Offcuts from granite tombstones were meticulously laid in patterns. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 8.4. Stair detail. (Photo: Cornelius van der Westhuizen, 2022)

Round House, Eastwood Street, Pretoria; May von Langenau, 1961

Fig. 9.1. The Round House exterior detail, the asbestos and steel facade is put on display. (Photo: Cornelius van der Westhuizen, 2022)

The Round House was a house specifically designed for an artist and her family by the German architect May von Langenau. Inspired by the earlier work of Le Corbusier, and that of Mies van der Rohe, this project best reflects the more pure and machined Modernist architectural principles. The modest scale structure is one of the first residential buildings in Pretoria that featured a cantilevered structure. The machined steel and asbestos finishes counteract with the more natural and earth-coloured paving and rock formations on the site. At the time of its construction, engineers would regularly visit the site to study the engineering principles that were employed. The form-giving of this house is unique in its execution – as its round shape is more reminiscent of traditional *rondavels* (traditional African round huts) and sits perched on *Meintjieskop*, offering an uninterrupted panoramic view of the northern suburbs of Pretoria. Internally, the central, circular staircase acts as the main structural core from which the slabs are suspended.

Fig. 9.2. The Round House exterior detail, the pilotis raise the building from the ground and create an open but covered verandah. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 9.3. Interior of the house, the terrazzo floor finish was done in situ. (Photo: Cornelius van der Westhuizen, 2022)

Kleinteater (Little Theatre) and the Serpentine Wall, UNISA Pretoria campus, Nana Sita Street, Pretoria; Norman Eaton, 1961

The Little Theatre is just that – a small scale theatre specifically designed for smaller audiences and stage productions. The project was originally commissioned in 1941, but due to budget

issues and external influences, it was only completed and opened in 1961. Internally, some of the architectural detailing is reminiscent of the Art Deco period – and some detailing of the built-in fittings is somewhat ornate – contrary to what the modernist tendencies advocated for in buildings. The deep set and sun-shy windows create a cavernous interior, perfect for stage productions. Also significant to this project is the inclusion of the Serpentine Wall, a free-standing brick wall that made use of exquisite patterns achieved through different bricklaying techniques. The winding and undulating wall separates the public areas outside the theatre building and creates a more private area for audiences to congregate before and after performances. This *motif* emphasizes the imaginative spaces, thus reinforcing the concept of the wonder of the theatre. Again, the prominent use of brick and locally available crafts is given centre stage in the architectural execution.

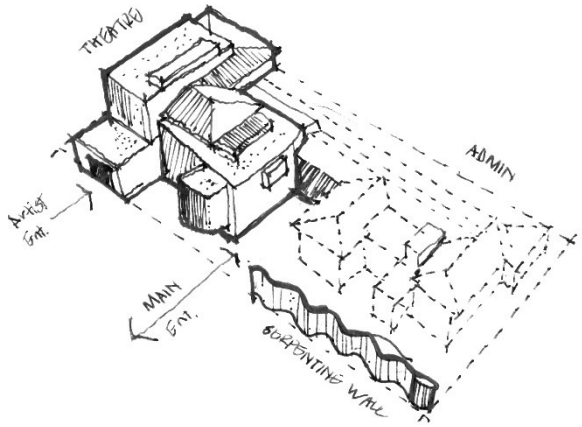


Fig. 10.1. The Little Theatre as a whole: the actual theatre is highlighted, and the ancillary programme is presented in dotted lines. (Source: Cornelius van der Westhuizen, 2022)

Fig. 10.2. The Serpentine Wall – a decorative wall that had a dual purpose as both screening wall and display of brickwork craftmanship. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 10.3. Interior of the theatre – the deep red mimics the use of earthly colours reminiscent of the zeitgeist. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 10.4. Interior of the auditorium: the deep maroon coloured interior creates an intimate setting. (Photo: Cornelius van der Westhuizen, 2022)

Transvaal Provincial Administration Building (TPA), Church Square, Pretoria; Meiring Naudé, van Dyk Architects, 1962

The TPA building is the best example of the more developed Brazilian Modernist style in Pretoria (Goodwin, Smith, 1943). It was an intentionally politically motivated project – the purpose was to establish a political and architectural identity of the Apartheid regime. The built edifice takes up its position right to the rear of Church Square. Although the building is tall, it is articulated in such a way that the mass of the building façade "steps back" from the street edge, the ground plane is thus completely freed up and the floor surface treated in patterned finishes, similarly to the influences of the Brazilian Movement. Consequently, this project ushered in an era of high-rise construction in the capital city. The TPA building best exemplifies an adaptation of the Modernist Movement to the Pretoria context and its ultimate application on an urban scale. Although the TPA is an immensely scaled building, the finely detailed and articulated façades in steel and glass contrast almost harmoniously with the alternating and patterned brick finishes. There are courtyards hidden throughout the complex, most of which are articulated in robust concrete surfaces and feature more organically shaped gardens.

Fig. 11.1. The Western Facade of Church Square: the TPA in context with various other style periods. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 11.2. The Brazilian-inspired solar shading devices. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 11.3. Detail of enclosures and walls at pedestrian level. (Photo: Cornelius van der Westhuizen, 2022)

House Jooste, Aries Street, Pretoria; Karl J. Jooste, 1965

House Jooste best represents the adaptation of Le Corbusier's *Modular* and its application in a Pretoria residential home. It was designed and built for the architect and his family and the influence of Le Corbusier is undeniable. The typical *béton brut* and red brick infills surface characteristics are softened by the terraced gardens on the site. Karl Jooste (1925 – 1975) and his contemporaries moved away from the purist interpretations of the Modernist Movement and designed the structures to be more contextually inspired. (Swart, Proust, 2019) The house is a testament to Le Corbusier's early principles of Modernist design, as exemplified by the strong concrete planar surfaces and exposed structure. However, the vaulted ceilings of exposed red facebrick are more reminiscent of his later works, such as the Villa Sarabhai (1955). In respect of referencing the Pretoria Regionalist style – it should be noted that the use of exposed red facebrick surfaces and off-shutter concrete finishes reflects the locally available construction knowledge. In contrast to the Villa Savoye (1931), the concrete surfaces are not smooth and finished, but textured from the timber formwork – the wooden grain gives a feeling of roughness, a feature absent from the "machined precision" purist themes.

Fig. 12.1. Entrance bridge to the house. The ceremonial approach motif employed by Karl Jooste. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 12.2. The southern facade, a circular tower that counteracts the strong planar elements of the house. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 12.3. The main circulation core of the house. (Photo: Author, 2022)

Fig. 12.4. Concrete details and finishes, meticulously crafted to assist in proper drainage. (Photo: Cornelius van der Westhuizen, 2022)

UNISA Pretoria campus, Muckleneuk, Pretoria; Brian Sandrock Architects, 1970s

Fig. 13.1. UNISA campus as seen from the opposite hill fort. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 13.2. The imposing masses and linear treatment of the facades. (Photo: Cornelius van der Westhuizen, 2022)

The UNISA campus in Pretoria is a massive scale university complex. It occupies the site of the famous Kirkness brickyards and gracefully responds to the physical context. Buildings are staggered at varying heights and offer impressive panoramic views over the Fountains valley intersection down below, the modern-day gateway into the city. During the decades-long construction of the campus, all the building products were left exposed to the elements, to ensure that after the buildings are completed, the final building envelope would present a uniformly discoloured finish. To convey a message of progress and advanced learning, several engineering feats are displayed – from a massive cantilever to impressive earthworks – thus creating a memorable silhouette and iconic form. More importantly, the influences characteristic of Pretoria Regionalism are featured prominently. The exposed concrete surfaces at pedestrian level are robust, rough-hewn exposed local stones as the coarse aggregate. The deep set eaves of external walkways shade the office windows and create spaces for users to pause and survey the landscape.

Fig. 13.3. The sculptural and refined massing of the buildings; also note the deep eaves and covered walkways. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 13.4. Detail of the tectonic and surface treatment, a more refined approach to the Pretoria Regionalist style. (Photo: Cornelius van der Westhuizen, 2022)

Fig. 13.5. View of the valley and main highway into the city. (Photo: Cornelius van der Westhuizen, 2022)

CONCLUSION

These curated projects not only evoke the sense of identity unique to Pretoria in the African landscape, but also demonstrate a sensitivity and understanding of the architectural response that dominated the Pretoria Regionalist scene. The examples suggest a union between architecture and art, local and implied natural heritage and the search for an identity that converges into an architectural response. Prof. 'Ora Joubert, a seminal figure in the new Pretoria school of architecture, considers the architectural heritage of South Africa to be one of assimilation and adaptation and imbued with a love of the land. The aim of the regionalist styles and traditions, she argues, is that they are premised on the appropriate responses to context, climate, and circumstance. (Joubert, 2009)

Fig. 14. A public space in Pretoria: Sammy Marks square, here a framed view showcasing the various architectural styles that make up the urban context. (Photo: Cornelius van der Westhuizen, 2022)

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Baťovany – (re)visions of a modern town: Searching for identity

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Abstract: The town of Partizánske in Slovakia, formerly known as Baťovany and built according to the design of the urban development plan of architect Jiří Voženílek (1909 - 1986) from 1938, represents a unique urban-architectural achievement in the context of not only Czechoslovak functionalist architecture, but also the emergence of modern European cities in the first half of the 20th century. Its original Baťa image, the remarkable idea of a linear industrial town with numerous structural and building innovations in the field of architecture have co-created the town's identity over the years and its original urban, architectural and historical value remains clearly observable. If we do not protect these values, the town will gradually lose its identity. From this perspective, the key aspect is the re-identification or (re)vision of the historical, architectural-urban, industrial and cultural values of the original industrial town concept and the subsequent confrontation of this model with the current demands of the town residents as a way to rediscover the disappearing identity with an emphasis on preserving and maintaining the exceptional values of Baťa architecture and urbanism. To this day, Partizánske has not adopted any concept of functioning territory or object-focused monument protection of Baťa heritage. Possible solutions regarding monument protection and rescue, restoration or reconstruction of the original Baťa architecture are hindered by lack of open communication between monument protection institutions, experts - historians, architects and urban planners with practical experience, town councils, civic associations and town residents. Therefore, our research also focuses on cooperation with the inhabitants of the town and introduces them to possible intervention solutions for the preservation of the unique architectural, urban and cultural heritage. This paper attempts to search for possible ways (participatory design, research by design, etc.) of ensuring the sustainability of the identity of the town, while preserving the unique values of Baťa heritage in Partizánske for future generations.

Keywords: Baťa architecture, linear town, industrial town, identity, Jiří Voženílek

INTRODUCTION

This article is part of the PhD research project The Phenomenon of Baťa Architecture in Slovakia, Visions and Reality. The town of Partizánske (formerly known as Baťovany) constitutes a significant achievement in modern urban planning in Slovakia. However, a failure to understand what town identity its current residents can identify themselves with might involve the risk of gradually losing the precious values of Baťa architecture and urbanism. This article aims to answer the question why the town's original identity is disappearing, while also exploring possible ways of reviving it. While taking into account the identified historical, architectural, urbanist and cultural values of the original concept of Partizánske as an industrial town, we are looking for a way to restore and update its fading identity. The results of the research will become the basis for the preparation of the architectural manual of the town of Partizánske as one of the possible tools for the sustainability of the Baťa heritage.

BAŤA IN THE UPPER NITRA REGION

Several events preceded the establishment of Baťovany (present-day Partizánske since 1949) (Haviar, 2012). The Baťa company gradually began to expand its production throughout Czechoslovakia (including today's Slovakia), as well as abroad. The planned factory in Slovakia was intended for the production of machine tools and bicycles. When choosing the location where the new production facility was to stand, they looked for areas with a good connection to Zlín (now Czech Republic), with easy access to raw materials for construction and also with high unemployment. (Haviar, 2012) Therefore, they chose Upper Nitra as the most suitable territory. The landowners and wealthy farmers there knew that if a factory was built there, they would lose cheap labor, so they decided not to sell their land. Therefore, several unsuccessful negotiations took place in the surrounding towns and villages (Topoľčany, Veľké Uherce, Žabokreky nad Nitrou, Oslany). The Baťa company did not man-

age to find land in either Topoľčany or Kremnica. Finally, the company decided to use the land already purchased from Eugene Salzberg in Šimonovany for the construction. The construction of a factory for the production of machines and bicycles began on 8 August 1938. The newly emerging town was named Šimonovany - Baťovany. (Janto, 2019) In 1939, after the declaration of Slovakia's autonomy, the situation in Šimonovany - Baťovany became more complicated. Exports of footwear to stores in Slovakia decreased significantly at that time. Therefore, the Baťa company decided to expand the production of footwear directly to Slovakia, so instead of the original intention to produce machine tools and bicycles in Šimonovany - Baťovany, they began to produce footwear in the new production complex. (Fig. 1)

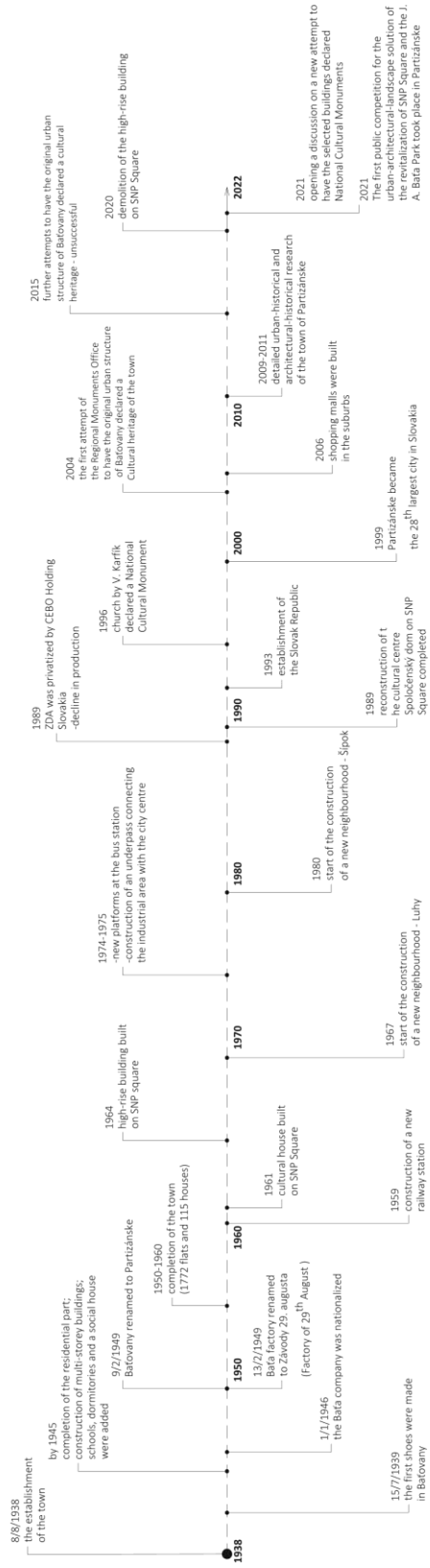

Fig. 1. A time axis of the Slovak town of Partizánske, formerly known as Baťovany. (Author: Veronika Vaňová)

JIŘÍ VOŽENÍLEK AND THE IDEAL INDUSTRIAL TOWN

The formation of Baťovany is linked with architect Jiří Voženílek (1909–1986). A graduate of the Faculty of Architecture of the Czech Technical University in Prague, he was a member of a left-leaning group of architects (Štursa, Janů, Voženílek) called PAS, which promoted the ideas of standardisation and industrialisation in civil engineering. On 20 April 1937, he started working for the Baťa joint-stock company in Zlín. He gradually worked his way up, becoming a renowned architect and urban planner with successful projects even outside of former Czechoslovakia. The innovative environment of Baťa's Zlín; its tradition of using modern forms of organising work, standardising things, and industrialising civil engineering and collective planning methods; as well as the chance to work under the guidance of architect Vladimír Karfík from the very beginning of Voženílek's time there – all these things created the ideal conditions to form the creative credo of this young architect, who would later also become an excellent urban planner.

After two years of work as an architect and budgeteer at the Baťa factory, in 1940 he started working as an independent architect. After 1945, he became the leader of the design department at the Baťa state-owned enterprise, and he formed a group to work on the urban development plan for Zlín. At the same time, he became the first chief architect of Zlín in the post-war period. He established Stavoprojekt, a socialist organisation focusing on architectural design, and in 1949 he moved to Prague to work as its manager. In Prague, he later worked as a professor of urbanism at the Faculty of Architecture at the Czech Technical University.

As a result of Voženílek's commitment to the socialist regime, his personal contribution to Czechoslovak architecture – primarily the architecture of Zlín – has not been sufficiently appreciated so far (Svoboda, 2010). Since the very beginning of his work in Zlín, Jiří Voženílek made use of the opportunity to collaborate with prominent architects like Vladimír Karfík (designing the Roman Catholic church in Otrokovice, now Czech Republic, in 1937) and Robert Hubert Podzemný (cooperation on urban development plans for Baťovany and Zruč nad Sázavou, now Czech Republic, in 1939). Robert Hubert Podzemný (1904 - ?), Czech architect, cousin of the architect Richard Ferdinand Podzemný (1907 - 1987), was an important representative of the Czechoslovak interwar avant-garde. Robert H. Podzemný worked for the Baťa company until 1939 and emigrated to the USA before the war. Richard Podzemný, who probably never cooperated with the Baťa company, is mistakenly mentioned as a co-author of J. Voženílek in several of the mentioned projects (Baťovany and Zruč nad Sázavou). (Staša, 1985; Svoboda, 2010, p. 47)

Archival sources also document Voženílek's external collaboration with the Prague architect Jaroslav Fragner (concept of the industrial town of Kolín, now Czech Republic, 1940 - 1941). However, Fragner's share in the project prepared in cooperation with the Baťa company was small. Vladimír Kubečka and Jiří Voženílek were in charge of urban planning in Kolín in the Zlín studios with Jiří Voženílek as the guarantor of the entire project. (Svoboda, 2010, p. 60) In addition to numerous significant architectural projects (such as his New Standard for a 5-Storey Building from 1943, a prototype of which was tested in Baťovany in 1943; Collective House in Zlín from 1947; Factory Buildings 14 and 15 in the Baťa Factory complex in Zlín from 1946–1948), Jiří Voženílek developed and implemented a visionary town concept, which was described in detail in the Baťa joint-stock company manifest: Průmyslové město (The Industrial Town, 1939). (Svoboda, 2010, p. 60) He also applied the idea of a modern linear town in one of his first urban planning proposals, creating two urban development plans for the Slovak town of Baťovany (Baťovany Urban Development Plan, 1939–1943, Richard Podzemný and Jiří Voženílek; Baťovany Urban development Plan, 1945, J. Voženílek). (Fig. 2)

Fig. 2. Baťovany urban development plan by J. Voženílek, 1946. (Source: The archive of the Partizánske Municipal Museum in Partizánske, now Slovakia)

Applying the same principle, he created three urban development plans for the town of Zruč nad Sázavou (1939–1945, in collaboration with R. Podzemný), urban development plans for Kolín–Telčice (The Kolín–Telčice Industrial Town, 1940–1941), as well as other cities and towns, some of which were located abroad (such as Martfü Urban Development Plan, 1941–1943, Hungary; Factory Urban Development Plan – Best, 1944, The Netherlands). Voženílek's work as an urban planner culminated in his post-war designs for the Zlín municipality and the Baťa factory complex in Zlín. The fact that Voženílek's Zlín Urban development Plan (J. Voženílek et al., 1946) is basically valid to this day is testimony to the quality of his designs. (Svoboda, 2010, pp. 40–41)

Changes to the urban development plan

Voženílek's early works of urban planning already reflected the uniqueness of Baťa architecture. His Baťovany Urban Development Plan, which was changed several times during the town's construction, was designed in 1938 for 5,000 to 15,000 residents in line with the principles of an ideal industrial town. (Moravčíková, 2003) The town of Baťovany, built according to this plan, was divided into different functional sectors: an industrial zone, a transportation zone, a park zone, a zone with shops and services, a residential zone with single-family homes, a residential zone with multi-family housing and a recreational zone. The town plan was created as a mix of various urban

planning concepts modern in the 20th century. It represents a combination of both contemporary and timeless trends in urban planning – ideal cities, garden cities and linear cities. (Bartošová, 2020, pp. 27-28) Shortly thereafter, the original urban development plan was modified in reaction to the town's growth. According to Jiří Voženílek's urban development plan from 1946, the town's main thoroughfare was determined by the existing railway, the four cardinal directions and the prevailing winds in the area. (Moravčíková, 2003) The central axis of the town, stretching from the industrial complex in the north, was rotated by 12 degrees due to the direction of the regional railway. The axis stretched from the industrial zone, crossing the railway perpendicularly and leading right up to the edge of the town square, where it rotated by 45° and from that point continued to the end of the square and to the bank of the river Nitra. Local streets were linked to the central axis perpendicularly, with the exception of streets in the zone with single-family homes, which were also rotated by 45°, allowing for better utilisation of cardinal points during the construction of the houses. (Fig. 3)

The whole town plan was designed to make the town ideal for walking, allowing employees to get to work and back home with ease (Janíčková, 2017, pp. 18-19). Between 1941 and 1947, the expanding built-up areas of the town saw a new addition – a zone with single-family houses built in line with the principles outlined in Voženílek's original urban development plan. However, the character of the houses changed. Not only did they get a new facade design, but also sloped roofs instead of flat ones. (Fig. 4) Between 1943 and 1944, plastered houses with six and eight housing units were built by the town square, designed by Miroslav Dorfa (Haviar, 2012, pp. 36-37). In the 1960s, a house of culture and a town hall were built in the main town square (Partizánske, 2000, pp. 22-23). However, all these interventions respected the original urban development plan. The biggest changes came between 1960 and 1990 with the construction of two new neighbourhoods: Luhy (start of construction 1967) in the western part of town and Šípok (start of construction 1980) in the southern part. (Partizánske, 2000, pp. 20-27) Neither of these socialist developments respected Voženílek's original urban development plan, as they were rather based on the modern ideas of contemporary urban planners. (Fig. 5)

Fig. 3. Photo of the residential zone of family houses from 1944. (Source: The archive of the Institute of History and Theory of Architecture and Monument Restoration, FAD STU, Bratislava, Slovakia)

Fig. 4. Photo of the residential zone of family houses from 1944, the Red Street can also be seen in the shot. (Source: The archive of the Institute of History and Theory of Architecture and Monument Restoration, FAD STU, Bratislava, Slovakia)

Fig. 5. Partizánske Schwarzplan. (Author: Veronika Vaňová)

Despite being different, these neighbourhoods brought monofunctional areas with lower-density built-up to the town structure, fulfilling the housing needs of the growing town. The least respectful intervention in this period was the construction of a lodging house in the very centre of the main town square (built in 1963, the building no longer exists as it was demolished in 2020). (Partizánske, 2000, pp. 20-21) The building was significantly taller than its surroundings, obstructing the Church of the Divine Heart of Jesus designed by architect V. Karfík (1943). While the building was constructed in line with the communist ideology, its primary purpose being to clearly obstruct the view of the church and dominate the public space with its height, it also ended up logically separating the town square into two separate functional sections – the busy square and the relaxing park. Therefore, one could argue that this location was, indeed, "suitable" for the building. Voženílek's original plans from 1938, which have been published by Henrieta Moravčíková, (Moravčíková, 2009) suggest that even the architect himself already had plans to create a structure that would separate the square into two parts (Bartošová, 2020, pp. 32-33).

Further inappropriate modifications to the town's urban plan came in the 1990s and the 2000s. In these two decades, several new buildings were added that did not respect the town's original urban development plan. These included, among others, a new department store at the train station and commercial buildings with a dynamic tear shape located on the pedestrian route between the house of culture and the underpass leading to the industrial complex. In this period, shopping malls started appearing at the town's periphery, causing serious traffic issues that continue to this day. The first of these was the Tesco supermarket, constructed in 2006. Other supermarkets sprung up near Tesco in 2012–2013. Considering the current developments and the latest zoning plan of Partizánske from 2015 (authors: Lenka Stankovská and Michal Chudík), it is obvious that the town has continued the trend that started at the beginning of the 21st century, failing to respect Voženílek's original urban development plan.

However, the plan's unique concept at least warrants finding creative ways to build upon it. Traces of the Baťa identity of the town are still clearly visible and they form a set of cultural heritage values: *"historical value (the town's original buildings are physical testaments documenting the development and activities of the Baťa company – one of the biggest shoemaking businesses in the world), urbanistic value (in the Šimonovany–Baťovany project, both industrial and residential buildings were placed in line with the linear town concept; this concept is rare in Slovakia and – in combination with the town's regular street grid and detailed functional zoning – it is exceptionally valuable), architectural value (because of the specifics of their architectural execution, the original Baťa buildings form a homogeneous layer of architectural expression in the spirit of functionalism and the industrial architecture that was produced in the architectural studios of Zlín), social value (to this day, the preserved structures are reminders of the prosperous Baťa joint-stock company, providing value through positive memories)."* (Bartošíková, 2016, pp. 5-7)

When comparing the current zoning plan of Partizánske and the existing urban interventions with Voženílek's original concept, it can be assumed that the visibility of the original Baťa architecture will gradually disappear. The original urban plan will be confronted with several issues, such as the plan to widen the town's main arterial road from two to four lanes. In this case, the goal is to relieve the town of traffic jams, which currently tend to occur during rush hour. However, instead of relieving traffic in the town centre, widening the road will make traffic even denser. Collision points which are currently problem-free (places where several secondary arteries from different directions meet) will face even greater traffic than today. (Slovak Road Administration, 2019) As a result, the number of cars that pass through the town will not decrease, but rather increase. Another threat associated with heavier traffic is the expansion of the town to the periphery, where residents need to drive by car. The monofunctional areas that are being created at the edge of the town turn cars into a necessity, whether these are the so-called satellite neighbourhoods, i.e. residential zones with low-density housing, or newly built production facilities. This results in urban sprawl. (Hniličkа, 2012) For the people living in these parts of town, commuting by car is the only option to reach work and the services they need.

Urban heritage protection

However, one of the biggest threats to Baťa heritage appears to be the lack of urban heritage protection in the town, which is something that preservationists and experts have been trying to achieve since 2004 (Fig. 6). The last professional initiative is the elaboration of materials for the declaration of the Urban Heritage Zone from 2015 by the Monument Board of the Slovak Republic. Even this legislative framework has not yet been successfully communicated to the public and subsequently approved. Due to the complete absence of the application of territorial and object monument protection, both the original linear town principles and individual architectural structures face significant degradation. Apart from the church designed by Vladimír Karfík, which has been a national cultural monument since 1996, no other element of the town's Baťa architecture is subject to cultural heritage protection. (The Monuments Board of the Slovak Republic, 2012). We can also compare the approach to the protection of Baťa architecture in Partizánske with other Baťa cities in Slovakia and with the town of Zlín (Czech Republic), which shows a high degree of urban heritage protection of the Baťa phenomenon aimed at preserving the town's original identity.

The town of Svit in eastern Slovakia faces a similar problem as the town of Partizánske. There is no urban heritage protection of Baťa architecture and the owners renovate the individual buildings in an inappropriate way. The Monuments Board of the Slovak Republic is still unsuccessfully trying to protect Baťa architecture in Svit. An attempt to declare an Urban Heritage Zone in the former industrial area in Svit failed in the 1990s. (Kern, 2021) Even in Bošany near Partizánske, where Tomáš Baťa bought a local tannery in 1930, opened a factory and built a residential colony for his workers (the so-called Red Colony), Baťa architecture has remained forgotten and unprotected.

The situation is different in Zlín, Czech Republic, in the hometown of Baťa joint-stock company. That area was declared an urban heritage zone in 1990 and the status is still relevant. Not only architecture but also urbanism is protected. The town of Zlín is an excellent example of how to ensure the protection of Baťa heritage. (Zlín municipality, 2018) The town has territory-focused heritage protection regulations and 28 buildings of Baťa architecture declared national cultural monuments. They have prepared an extensive document on protection, which informs the owners of the buildings on the principles of protection and how to proceed in the reconstruction and construction of the Baťa architecture. The document was prepared in cooperation with the town of Zlín, the Monument Board of the Czech Republic, architects and citizens of the town. (Zlín municipality, 2018)

In contrast to Zlín, Slovak town Partizánske currently constitutes a town whose territorial regulations do not support the preservation of the unique Baťa urbanism, architectural solitaires and the original identity of the town, nor do they lead to sustainable concepts of the cities of the future. These correla-

tions are expressed in the table below (Tab. 1) describing the method and degree of territorial and object monument protection in selected Baťa towns. In locations where the protection of architectural and urban heritage is absent, we can observe a gradual loss of Baťa identity of the town or place. There is also a lack of the ability of the owners to identify with the monuments during the reconstruction of the buildings (inappropriate reconstructions, the problem of insulation, etc.). The use of architectural and urban planning manuals is offered here as an example of good practice. The Zlín Architectural Manual stands out in this respect, as it maps and popularizes architectural and artistic objects, sets of buildings and public spaces built since 1894. (ZAM, 2019) In further research, we will compare the current development of the town and the approach to the protection of Baťa architecture with other Baťa cities abroad. Zruč nad Sázavou and Sezimovo Ústí - Czech Republic, Batadorp - Netherlands, Möhlin - Switzerland, Martfü - Hungary, Chmelek - Poland, Tilbury - United Kingdom of Great Britain and Northern Ireland.

Fig. 6. A proposed urban heritage zone and protection zone of the urban heritage zone. The map is based on the results of the research from years 2004 and 2011. (Author: Veronika Vaňová)

Tab. 1. Urban heritage protection of selected Baťa towns. (Author: Veronika Vaňová)

City	PARTIZÁNSKE-BAŤOVANY	BOŠANY	SVIT	ZLÍN
Country	Slovakia	Slovakia	Slovakia	Czech Republic
Year of establishment of the factory	1938	1930	1934	1900
Urban development (zoning) plan	1938	–	1935	1923-1925
Conservation zone	none	none	none	**Conservation zone since 1990**
National cultural monuments	1	0	1	**28**
Civic associations dedicated to the Baťa phenomenon	2	0	2	**3**
Manual - a tool for applied solutions to restore Baťa architecture	0	0	0	**3**

A LOST IDENTITY

The term "identity" has many meanings. From a sociological perspective (Jandourek, 2001, p. 106), it is interpreted as "authentic existence", a phrase which describes a unity between a person's inner mental life and their actions. It also refers to an intense feeling of one's own identity, one's individual experience with the community. (Ontkóc, Kotradyová, 2021, pp. 24-30) Identity can be interpreted as complete sameness, but also as a certain distinctiveness and uniqueness. According to Jenkins, identity *"incorporates two defining aspects of comparing people and things: similarity and dissimilarity."* (Furdík, 2011, p. 54) Norwegian historian and theoretician of architecture Christian Norberg-Schulz views this term in relation to architecture and the search for genius loci: *"The personal identification of a person implies the identity of a place."* (Norberg-Schulz, 2010, p. 21) In order for a person to be able to identify with a place, the place first needs to have a clearly visible identity. Architects Alena Kubová-Gauché and Isabelle Gournay also reflect on this issue in their article, where they conclude that Partizánske is a town that has lost its identity (Kubová-Gauché, Gournay, 2019, p. 367).

The concept of identity is often mentioned in connection with the historical meaning of towns and cities. However, the way in which identity manifests itself in a specific environment is not simple to describe. The Short Dictionary of Slovak defines identity as: *"sameness, oneness, uniformity"* (Doruľa, 2003). Kevin Lynch offers a different perspective on the identity of an object or place: *"This is called identity, not in the sense of equality with something else, but with the meaning of individuality or oneness. Second, the image must include the spatial or pattern relation of the object to the observer and to other objects. Finally, this object must have some meaning for the observer, whether practical or emotional. Meaning is also a relation, but quite a different one from spatial or pattern relation."* (Lynch, 2004, pp. 8-9). A different perspective offers a social context where: *"cultural identity also represents a process, one in which a certain community identifies with the cultural heritage of its ancestors, protecting and otherwise slowing down its decline in order to preserve cultural continuity for the future of the generation."* (Gregorová, Špaček, 2010, p. 230).

In the past, towns and cities could easily be distinguished by their uniqueness and the character of their built-up areas, which was determined by several factors: expression of national identity, geographic location, the materials used, or the individual contribution of a relevant ethnic group. The identity of towns was unmistakable. Today, the identity of many towns is barely visible. Partizánske (Baťovany) is a town with a unique urbanistic value, and – as one of the few preserved ideal industrial towns in the world – it can still demonstrate its unmistakeable identity (cultural, social and visual) and the character of its built-up areas, still clearly visible even despite unsuitable changes made in the last decades of the 20th century and at the start of the 21st century. This fact is primarily appreciated by experts, while the general public's awareness of the town's identity is faltering. If the residents of Partizánske fail to identify themselves with the town's Baťa identity, this identity will be difficult to preserve.

The original identity of Baťovany consists of the following phenomena still visible in the town's overall image: the town's unique history associated with the world-renowned Baťa joint-stock company; the exceptional examples of Baťa urbanism, including the public square dominated by Karfík's church; the architecture of the industrial complex and the preserved 6.15×6.15 m modules that were used for the construction of industrial buildings; Baťa residential architecture; and the town's residents, who view this identity as a link to their cultural heritage. (Janíčková, 2017, pp. 44-46) (Fig. 7)

Fig. 7. Industrial complex. (Photo: Veronika Vaňová, 2022)

We can perceive the cultural and social identity in the town also through the oldest inhabitants of the town, who directly experienced Baťa school of work and worked for the company Baťa and used to be referred to as "baťovci" (Moravčíková, 2004). However, the original "baťovci" are already dying out in the town. The generation that identified with the Baťa identity the most has become a minority among the town's residents. (Moravčíková, 2004) The generation that grew up in the 1990s gradually began to identify with the original identity. They perceive the historical and cultural aspects of the town's origin and try to maintain this phenomenon. The phenomenon can be observed in the activities of the aforementioned age group, as these people clearly try to record the history and culture of the original town of Baťovany through their activities in civic associations (OZ Fabrika umenia, lit. Art Factory). (Art Factory, 2015)

On the contrary, the majority of the population - the generation that grew up during the communist regime and experienced the change of the regime - no longer tends to identify with its original identity and hampers the processes associated with territorial and object-focused monument protection. Therefore, it can be said that Partizánske is gradually losing its identity. However, even if a place or town has lost its identity, it can be revised and restored, or rediscovered. (Bartošová, 2020, p. 42) In this process, the active contribution of architects, urban planners, historian and theoreticians of architecture, sociologist and other

professions is important in formulating a new identity that would follow the historical identity - in this case Baťa identity. The question remains what the town can expect in the future and whether the new generation will succeed in promoting a new perception of Baťa values and thus in reviving the town's identity.

Public participation

One suitable tool that would allow the general public and the town's residents to participate in restoring or revising the town's original identity includes participatory design methods (Ontkóc, Kotradyová, 2021), including emotional mapping. As part of her research, in October 2020 one of the authors of this article worked with the civic association Fabrika umenia (lit. Art Factory) and prepared materials for an emotional map as an accompanying program of the Days of Architecture event, which made it possible to comment on the situation in Partizánske. (Fig. 8)

The aim of this activity was to offer the town's residents an interesting tool for identifying the problems and opportunities of specific spaces. They were given the opportunity to mark specific places on a map with five different feelings and they could also add text. The greatest number of positive marks was placed in the original Baťa-planned areas. However, these areas also received the largest number of marks for "unfulfilled potential" and "missing amenities". The biggest number of negative marks appeared in places that did not respect the original urban development plan. The aim of this event was to have the public actively participate in providing proposals and solutions regarding Baťa architecture in Partizánske, and the main goal being to show residents a new way of having an open discussion and to emphasize the residents' views of the issue at hand.

The emotional map showed how the participating residents viewed the town; it indicated whether they were aware of the values of the Baťa cultural heritage and it helped identify where they saw the town's potential shortcomings. Participatory methods can be used for areas where communication between the public and monument boards (Bartošíková, 2016) has failed in Partizánske. Successful projects and initiatives from other cities could help there. A good example of the participation of the public in the design process regarding a Baťa district is provided in the publication Zálešnou pro život, život pro Zálešnou (Tuček, Pešatová, 2016), where the author informs and actively involves the inhabitants in the process of preparing a change in the urban development plan.

Fig. 8. The emotional map of Partizánske prepared based on the suggestions received at the Day of Architecture event in Partizánske, 2020. (Author: Veronika Vaňová

Case study – Červená street

Červená Street serves as an illustrative example of how the identity of Partizánske could be worked with in the present (Fig. 9). The street is located in a part of town where – even without cultural heritage protection – the original single-family houses have (at least partially) preserved their unplastered brick facades, including the material and spatial structure of the objects. The research has shown that only 5 of the 27 objects on Červená Street have retained their original appearance, 9 have retained

it partially and as many as 13 have undergone significant changes. As to the reasons for the situation, they might be connected to the fact that this location has retained a collective awareness of its uniqueness and the need to preserve its identity. This example is only a small fragment of what should be happening all over town in order to preserve its Baťa identity. In this case, the efforts only focused on preserving the materiality of the facades. However, looking at the other aspects of preserving the buildings' original identity, such as unsuitable house extensions and changes to their roofs, the houses can hardly be considered examples of best practice. Preserving the appearance of a house's facade is the simplest way to preserve reminders of the town's Baťa heritage. Moreover, residents can do so without having to ask for the help of experts like architects or the Monuments Board.

Fig. 9. Červená Street in Partizánske, Slovakia. (Photo: Veronika Vaňová, 2022)

Many residents who own Baťa buildings are interested in reconstructing their properties with consideration for and links to Baťa architecture, but they do not know how to do it. What tools could help the residents and the municipality in renovating and extending buildings so that the town's unique character would be preserved? The first available tool is educating people about the values of Baťa architecture. This means explaining the topic at town events and giving the public the option to participate in the formation of public spaces through interviews, surveys, lectures and participatory planning. The civic association Fabrika umenia (lit. Art Factory), which is trying to restore awareness of Baťa architecture, has already been doing similar activities in the town. Even children, the youngest residents of the town, can become part of the process since they will only have the potential to preserve the town's heritage if they grow up with awareness of it.

Another tool is open and professional communication between the municipality, the Monuments Board and the town's residents. Since the town was first established, the needs of its residents have changed, just like their living conditions have. A need to revise the original Baťa architecture has arisen. Naturally, the town's residents are concerned that if an urban heritage zone was declared there, it would affect the way they would be able to renovate their houses, meaning that they would not be able to adapt their housing in line with their individual requirements. This would make it more difficult for people to modify their property, so the town's residents have been filing appeals against the creation of the conservation zone that the Monuments Board has been trying to declare since 2004.

Therefore, it is necessary to create a tool that would help align the current needs of the town's residents with the experts' demands to preserve the Baťa identity of Partizánske. In 2021, the first public meeting took place in the form of an open discussion between the citizens of the town, the Monuments Office and the town council. On behalf of the FAD STU Bratislava, Slovakia, V. Vaňová was also invited to the meeting, as a co-author of the Partizánske urban study, for which she received the award of Prof. Hruška 2019/2020. The discussion took place on September 28, 2021 in Partizánske. (FAD STU, 2021) The main author of this article has been working on creating a tool like this as part of her doctoral dissertation, which focuses on the phenomenon of Baťa architecture in Slovakia. The tool is applied around Červená Street in Partizánske as a case study. The case study consists of three design phases: Phase one: History – identifying the original state of the objects. Mapping the history and identity of the place or objects by researching archives, contemporary periodicals, etc. (Fig. 10)

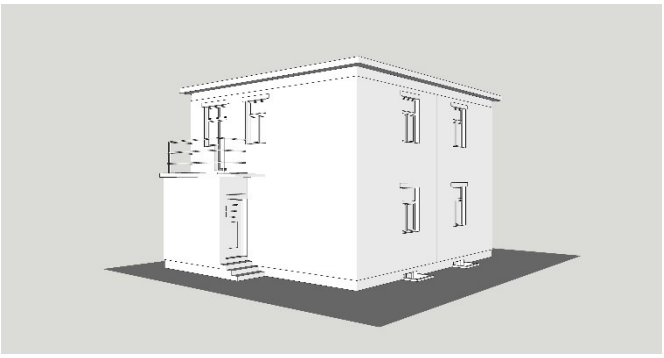

Fig. 10. A house model type Šimonovany, modelled according to the original plans. (Author of the computer model: Veronika Vaňová)

Fig. 11. House type Šimonovany. The left side has been reconstructed with regard to the values of Baťa architecture. The right side has been reconstructed regardless of the values of the Baťa architecture; it is obvious the original windows have been replaced. (Photo: Veronika Vaňová, 2022)

Phase two: The current state – documenting the current state of the objects. Using photographs and sketches of the original state to document how extensively the objects have been changed from their original state up to this point. Phase three: The future – proposing possible solutions with a focus on preserving the values of Baťa heritage. (Fig. 11) Creating a comprehensive document or manual with applied solutions to restore and preserve cultural heritage values using illustrative examples. The process also includes communication with the town's residents and their active participation in the process of revising its identity. The use of manuals in adapting urbanism and architecture to new requirements is a common practice. In this context, there are examples of accepted manuals from the Czech Republic -

Manual for the Creation of Public Spaces in the Capital Town of Prague (IPR Prague, 2014), or the manual: My Baťa House: Contemporary Reconstructions of Baťa Houses by architect Jitka Ressová (Ressová, 2012). The Public Spaces Manual, developed by the Bratislava Metropolitan Institute, has been successfully applied in Bratislava, Slovakia, for several years (Bratislava Metropolitan Institute, 2020).

CONCLUSION

Such an exceptional architectural and urbanistic achievement as Baťovany, currently known as Partizánske, needs to be protected for future generations. Since the town's formation, Baťovany has undergone a variety of changes. Despite all of them, it is still possible to see the town's original approach to urban planning and feel the original Baťa atmosphere of the town and its individual buildings. So far, existing initiatives to save the town's Baťa architecture have not been successful. New knowledge and research indicate that there are other ways of protecting our heritage, for instance through participatory design methods and the creation of specific tools (e.g. a manual) that will allow both the general public and experts to preserve the identity of the town and place in question. Without any protection for the objects and areas relevant to the town's Baťa heritage, the town's identity will gradually disappear, and we will lose unique architectural and urbanistic values, which – as cultural heritage – are of European or even global importance. Both public participation and a manual of Baťa architecture in Partizánske could help, as these would make it easier to secure cultural heritage protection for this unique phenomenon.

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Architectural education in the context of social sciences

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Abstract: Architecture is an interdisciplinary subject that utilises knowledge and experience from numerous scientific fields. Social sciences in particular have a special relationship with architecture, transforming it into a living and reflective discipline. Architectural design is basically a hypothesis that explores how society would react to its substance and the conditions it creates. However, social sciences subjects are often limited to theoretical knowledge over the course of architectural education. This research discusses social and psychological sciences and their architecture-specific theories as powerful tools for student engagement in architectural education. Focusing on educational concepts which lead to a greater understanding of dynamic societal changes, the research also indirectly analyses the traditional process of creating a universal design, outside of this understanding. This approach enables students to understand the limitations of their education and to think analytically about design options and the improved interactions not only with their surroundings but, more importantly, with a specific person or group of people. Activities that develop this kind of understanding are different forms of interactive art (site-specific installations) and social activities (focus groups) with different demographics (persons with health impairments – for example barrier-lessness and social inclusion). The base research analyses social and psychological sciences in relation to the process of architectural design education with a focus on European context. In social sciences, social and spatial connection and their often implied or ignored relationships are investigated in increasingly more interesting ways. The aim of this study is to provide a complex outline of the educational methods which, on top of technological change, also actively monitor social change.

Keywords: social sciences, education, engagement, design process

INTRODUCTION

Interdisciplinary thinking is an unavoidable part of the design process for a creative architect. At a time of increased socio-ecological requirements, we cannot simply consider permanent spaces and architectural objects to be the result of a creative process, but rather to be the products binding together a myriad of contextual relationships and responding to socio-psychological, ecological, economic and other challenges. The user becomes the subject in the forefront of permanent architecture and eventually defines and rates the "user friendliness" and the "value" of a building, thus becoming its primary critic. The future of architectural and design-led education therefore lies in the interdisciplinarity of education. *"Architects, being operators of one of the largest industries in the world, i.e., building developments in cities, are responsible for the natural and cultural environment. Issues in architecture are related to the philosophical problems of modern civilisation and architectural education must prepare putative architects to solve these problems. Architectural education related to these issues is becoming an increasingly important part of the humanities education of future architects."* (Czyz, 2020) User engagement at different levels is also related to architectural education. Many theoretical studies analyse "critical pedagogy" as an educational philosophy stream of architectural education. *"Critical pedagogy provides insights into how the existing framework of architectural education might be challenged, permitting the development of a more democratic learning environment informed by competing interpretations, alternative histories, and a new range of situated political issues."* (Crysler, 1995)

Other studies related to architectural education analyse the "new education paradigm based on the recent development of complexity theory." This would amount to a pedagogical and socio-cultural complexification – to borrow a phrase from Alain Findeli – of the theory and practice of designing: *"Such changes would include rethinking the epistemology of design, becoming more aware of the systematic processes of design, and incorporating multidisciplinary approaches to design projects and activities."* (Wang, 2010) Studio-based education is an active space, where students engage one another intellectually and socially. It is also the space between analytical, synthetic, and evaluative type of thinking. According to Thomas Dutton, architect and educator: *"utilizing an educational concept known as the hidden curriculum to analyse the design studio, the author argues that there is a rough correspondence between schooling and larger*

societal practices, where the selection of knowledge and the ways in which school social relations are structured to distribute such knowledge, are influenced by forms and practices of power in society." (Dutton, 1987)

SOCIAL SCIENCES

Despite the multidisciplinary character of the architectural profession, a monodisciplinary model is often implemented at university level. Complementary subjects, particularly social sciences, are often missing from the curriculum. Linking academic research to social sciences is a lesser part of the research practice. Social sciences in the context of architectural research thoroughly analyse the needs and preferences of users. It is envisaged that architecture students working in conjunction with a practitioner in the field of social sciences and using sociological research methods will be capable of creating proposals which optimally respond to an assignment blending with the architectural and sociological research. *"The different disciplines – in particular sociology, anthropology, environmental and behavioural psychology – can contribute in many ways to the architectural research and design process. Not only can different and important subjects be researched, beyond the standard in architectural research, but the overlapping subjects can also be studied in a multi- or interdisciplinary mode, resulting in surprising outcomes. This collaboration has to be well organised and would be served best with a common goal and specific research question."* (Bosch, 2020)

PARTICIPATION AS AN EDUCATIONAL METHOD

The architecture studio is integral to architectural pedagogy. Studios engage students in different activities of making and conversation, shifting between analytic, synthetic, and evaluative modes of thinking (Dutton, 1987). As the scope of architectural problems grows in complexity, new teaching models for architecture studio have emerged. The new models replicate industry practices by introducing new methods and perspectives of information to enrich students' ability to make effective and integrated decisions. The discussion about user involvement in the design process is ongoing. The requirement for their proactivity in a space they are to use results in a participatory design. In architectural education, the drive to satisfy the user is important, but remains theoretical. Students are marked on the creation of a product, instead of user satisfaction. *"Actually, it is seen as a natural and inevitable result that the mass of students who are a part of a community gives on to the community also after the end of the educational process, does not drift apart, relays information that is obtained to them in various ways and is useful."* (Bulut, Polatoglu, 2017) A field in which participation is applied encourages collaborative work abilities, empathic thinking and creative compromises.

New approaches towards studio work are focused on methods and tools guiding the evolution and evaluation of design from the point of view of material innovation, longevity and analysis of expenditure. The participatory approach to the methodology of teaching studio work is an important method aimed at the process of integrated design in architecture, offering students a cultural background on user needs and more realistic limitations which contribute to a more complex proposal. Design research has taken many forms across the design disciplines. Some have utilized user-centred methods such as contextual inquiry, applied ethnography, evaluative, and usability testing. Others have embraced the participatory design approach to engage future users as co-designers in the design process (Van der Velden, Mörtberg, 2021). Sanders summarizes the landscape of design research methods that shows evolution of user-centred and participation-centred design methods.

An example of the effort to establish a complex approach to architecture is the use of participatory design based on the cooperation of several parties, usually investors, designers and users. The term first appeared in the 1960s and its understanding has gradually evolved ever since. Whether architects, designers or engineers are designing a new space or revitalising an existing one, current and future users ideally be involved in the process. Past users are best placed to interpret priority needs, social interactions and routines due to a greater level of familiarity and can therefore be instrumental in establishing the elements that are likely to improve the quality of future usage. Spaces created by a participatory process offer not only the required coexistence, but also the creation of a multicultural and across-the-board harmony and desirable interactions. Well-planned interaction spaces depend on the design and the design is based on needs and preferences of the user, who should therefore participate in the design process to the maximum, in order to help tailor it to meet their requirements. (Sanders, 2008)

At present, morphologies are being sought that would contribute to potentially achieving relevant results or conclusions at numerous levels. A possible supporting tool is the application of so-called intersubjective multidimensional decision schema/frameworks and assessment methods. Logically constructed and well interpreted guidance has the potential to simplify the decision process and thus enable the relevant decision-making of each participant. As long as the "synthesising decision schema" determines the optimal order of the steps undertaken, the assessment method defines the criteria and mechanism of evaluation. It is crucial to understand that each participatory process has its specifics, derived from the need to adapt the methodologies to a specific piece. Their optimal use can be helpful for example to people with lower levels of education, or older and disadvantaged groups in asserting their interests. These people are often disadvantaged, when compared to academics wielding better communication, rhetoric and managerial skills or even mastering the rules of psychological manipulation, used in the sense of targeted purpose and influences. The integration of supporting user-friendly methodologies also contributes to the elimination of psychological barriers formed as a result of circumstances and manifestations, whether intentional or not, and of communication methods, etc. (Rabinowitz, Glinn, 2021)

NEW METHODOLOGIES IN THE PROCESS OF ARCHITECTURAL AND DESIGN EDUCATION

While case studies of co-creation methods being used in an architectural context are increasing, the use of these methods lies primarily in the front-end of the design process. Participatory co-creation methods are being utilized by architectural schools to understand students' views on space configuration and possibilities of designing. The application of various co-creation methods is accompanied by a number of related occurrences drifting into the field of sociology, psychology and other scientific disciplines. The participatory approach is closely related to the understanding of the mutual relationships between professional design proposals and real user requirements. The process therefore underlines "assertiveness in designing", enables the ability to communicate assertively and the tolerance to different opinions or differences in general. Michal Šoltés, the author of numerous articles on assertiveness, highlights that this attitude cannot be simply defined as *"a collection of assertive techniques and communication strategies"* but as a global qualitative characteristic of an individual, based on the internal scale of equality and a positive attitude to others. The co-creation process supports these qualitative characteristics inadvertently.

It is also important to realise that direct open communication with future users is directly influenced by the mental state of all participants over the different stages of the process. The evaluation of the conclusions is therefore partially influenced by the ability to "mentalise" (this ability being a reflective function of the participants' capability to tune into the mental state of others as well as themselves). (Šoltés, 2021) The recognition and use of participatory design and other methodologies discussed above is a significant future challenge for architectural and design education. It leads to a better quality of teaching and strengthening of the curriculum. The application of synthesising intersubjective multidimensional decision schemas and assessment methods in the creation of a piece of work is not currently a common occurrence and only observed occasionally in selected doctoral projects. The recognition and understanding as well as a proactive involvement of the student with the participatory design mechanism involving various types of evaluation methods, schemes and methodologies has the potential to bring many positive contributions, several of which are worth listing:

- Understanding the significance of plurality or specificity of opinion brought on by the diversity of participants, their personal preferences and real-life experiences, etc.;
- Testing various techniques and methods in collaboration with a wider field of experts and users;
- Strengthening of the ability to make collective decisions when formulating strategic objectives, confrontation and evaluation of varied concepts and drawing optimal conclusions;
- Familiarisation, testing and understanding the need and process of phasing of works to reach optimal results;
- Supporting the thinking abilities of individuals within contextual relationships, while considering the numerous briefs and conditions, investors' and users' requirements and the interdisciplinary character of the design process;
- Strengthening the ability to objectively consider similar and different opinions resulting from the inherently diverse imagination of the participants;
- Strengthening the ability to evaluate the arguments for and against proposals;
- Strengthening the ability to select attributes, which is related to the ease of navigation of a caste pool of possibilities;
- Strengthening the ability to think critically during the creative process;
- Testing one's own ability to make objective decisions and assert own opinions; and
- Testing the reflective feedback abilities, i.e. feedback form of education.

CASE STUDIES

There are several means of running co-creation training opportunities in education. If circumstances allow it, real-life participation – investor's representatives, users, local authorities, social institutions, local community groups, etc all participate in the process. The initial stage consists of a site visit and different presentations and assessments; the following steps are selective and usually consist of defining user priorities and establishing design strategies. Lectures by invited experts from other scientific disciplines, briefing and workshops could be complementary components to the process. Prototypes developed by students are then subject to peer review, transparent discussions with the represented parties, in a single or two-phase approach. The recommended supporting tool to aid the discussion is the archiving of any collected data in a way that is easily accessed at any point in the future if necessary. Over the course of data collection and selection of priorities, students work these into their design proposals. If it is intended that the proposals be constructed, timeframe and budget priorities are also part of the considerations. When this methodology is applied, students familiarise themselves with a wider spectrum of requirements from different areas and become active protagonists in the implementation of the priority selection, and discussion based on various opinions and levels of expertise. Depending on each student's individuality and personality, they tend to prioritise their own preferences or reinterpret the requirements of other participants through the use of the proposed piece.

As it is not always possible for clients or users to take part in the process, a viable alternative is performing the participatory design exercise at a hypothetical level. Based on pedagogical experiences to date, it is possible to ascertain that even a method based on a fictitious scenario can be very useful. As part of the educational method, the student individually defines a target group and, with the assistance of accessible sources (literature, social networks, blog, etc.) seeks out information which would inform their final proposal. Designing spaces with the potential of being used by the students themselves is of a similar character. The approach is systematically challenged by the teachers, as well as students working on the same theme with other interested parties. The student is thus forced to consider and respect other assignments and outcomes, besides their own preferences and, at least at a hypothetical level, "communicate" with future clients.

Students worked on various typological types in studio work within FAD STU. With ongoing research, they have developed several office interior designs over the last three years. In the case of interior design, we try to work with students at the Department of Interior and Exhibition Design at the complex level of architectural creation. Before starting to design the project (Fig. 1.1 – 2.4), we offered students lectures by experts in the field of psychology who presented methods of cooperation with architects. Students also gained an overview and information about the client's communication with the architect. Formal compositional elements such as colour, materiality in connection with the human psyche were analysed. Students also learned about various methods of certification of administrative buildings (for example BREEAM or WELL), which also deal with psychological and sociological facts in interior design.

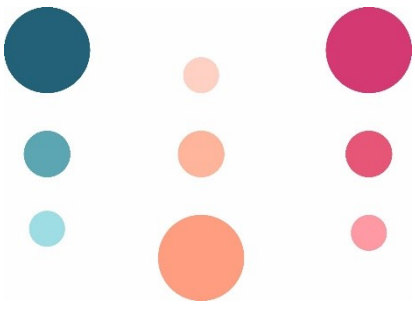

Figure 1.1. Corporate colour identity

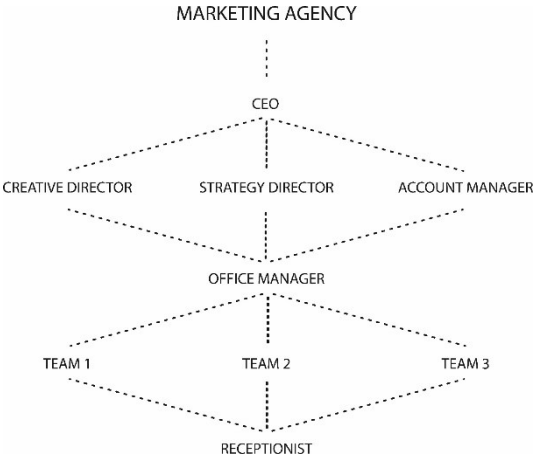

Figure 1.2. Corporate hierarchy

Figure 1.3. Facade view

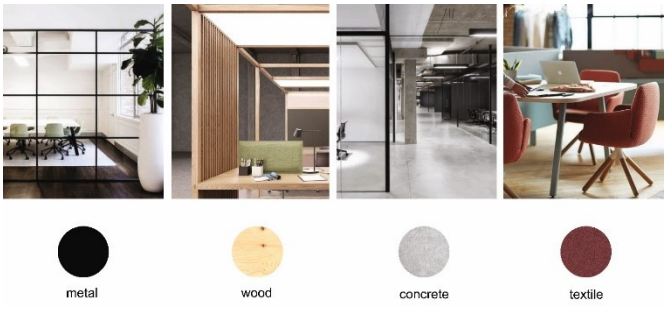

Figure 1.4. Material concept

Figure 1.5. Hot-desk space – axonometry

Figure 1.6. Chill-out zone – axonometry

Figure 1.7. Working area – axonometry

Figure 1.1. – 1.7. PONY HOUSE Marketing Agency, building "Sklad č. 7" (Warehouse no. 7), Danube riverbank, Bratislava, Slovakia. Conversion of industrial building - former storage premises into office spaces. Student: Monika Rešetková, supervisor: Jana Vinárčiková, Interior Studio VI, FAD STU Bratislava, 2020 - 21. Hypothetical scenario based on participatory education scheme - potential investor with specific requirements; spatially structured spaces for agency's employees. (Source: Institute of Interior and Exhibition Design, Faculty of Architecture and Design STU, Bratislava, Slovakia)

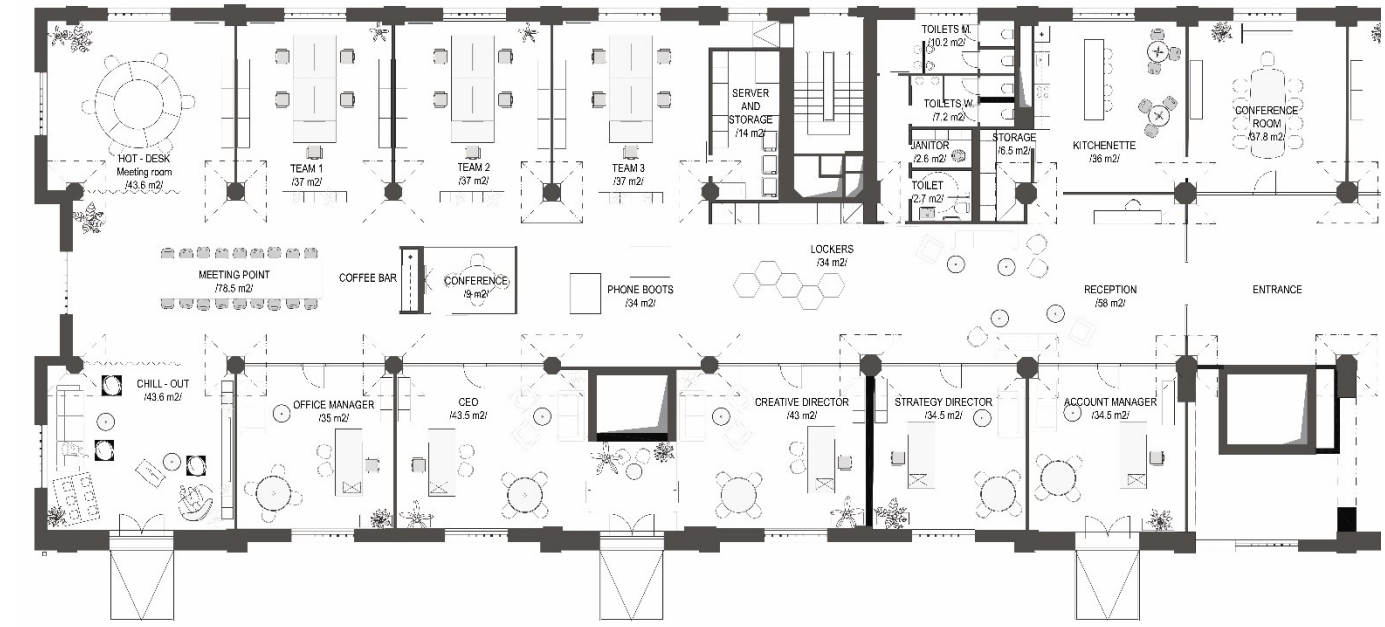

Figure 1.8. Plan view – selected part

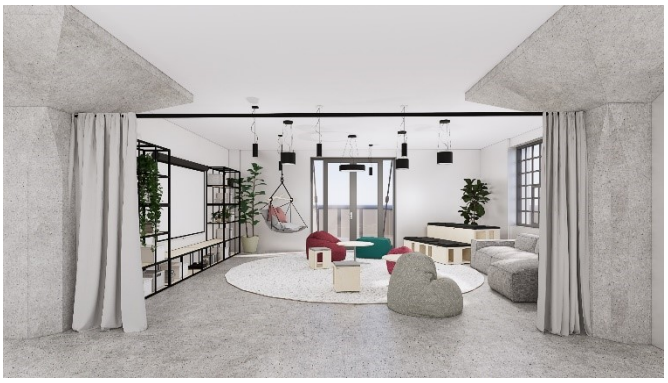

Figure 1.9. Chill-out zone – visualisation

Figure 1.10. Central meeting area – visualisation

Figure 1.8 – 1.10. PONY HOUSE Marketing Agency, building "Sklad č. 7" (Warehouse no. 7), Danube riverbank, Bratislava, Slovakia. Conversion of industrial building - former storage premises into office spaces. Student: Monika Rešetková, supervisor: Jana Vinárčiková, Interior Studio VI, FAD STU Bratislava, 2020 - 21. Hypothetical scenario based on participatory education scheme - potential investor with specific requirements; spatially structured spaces for agency's employees. (Source: Institute of Interior and Exhibition Design, Faculty of Architecture and Design STU, Bratislava, Slovakia)

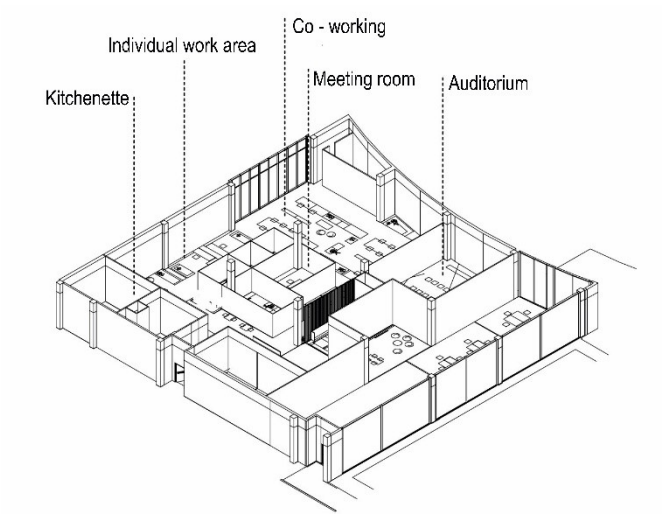

Figure 2.1 Spatial concept

Figure 2.2 Development sketch

Figure 2.1. – 2.2. STYLA Shopping Center, Bratislava, Slovakia. Conversion of selected retail premises into co-working spaces. Student: Barbora Vaňová, supervisor: Peter Mazalán, Studio VII - Interior, FAD STU Bratislava, 2019. A real-life scenario based on participatory education scheme - real investor with own specific requirements; spatially structured spaces for freelancers, architects and designers. (Source: Institute of Interior and Exhibition Design, Faculty of Architecture and Design STU, Bratislava, Slovakia)

Figure 2.3 Development sketch

Figure 2.4 Development sketch

Figure 2.3. – 2.4. STYLA Shopping Center, Bratislava, Slovakia. Conversion of selected retail premises into co-working spaces. Student: Barbora Vaňová, supervisor: Peter Mazalán, Studio VII - Interior, FAD STU Bratislava, 2019. A real-life scenario based on participatory education scheme - real investor with own specific requirements; spatially structured spaces for freelancers, architects and designers. (Source: Institute of Interior and Exhibition Design, Faculty of Architecture and Design STU, Bratislava, Slovakia)

CONCLUSION

According to the study "A theory for integrating knowledge in architectural design education", it is crucial to initiate and inspire educational institutions and future designers towards a more complex approach to the design process. Considering the proposal as a purely functional and aesthetic spatial object or a product of one's own creative ambition is not sufficient. An outlook on the creation process, reduced to this mode of thinking, leads to a diminished quality of the final product as well as the quality of education, which loses touch with a broad range of relevant requirements. (Fonagy, Gergely, Jurist, Taget, 2005) The participatory design team become a community of people who communicate and share common and diverse opinions, thus creating a form of social interaction, the experiencing of which is crucial for the development of healthy individuals and well-rounded experts. The lack of sufficient social interaction often results in the inability to accept the most natural difference of opinion, a lowered threshold or outright refusal to accept diversity in all shapes and forms. This can be observed in the creative process through the absence of user-focused and need-focused proposals in the first instance.

The training methods mentioned above teach students to reflect upon and select user requirements as a natural part of the process, accept and embrace the plurality of opinions, and social and individual diversity. Through the creative process, students are taught to contribute, in a meaningful way, towards common goals and also become a part of social community, while bridging social capital as a sum of advantages gained from the network of relationships with similar and diverse individuals. The participatory approach in education helps interpret, stimulate and generate social interactions that are so crucial to a successful architectural career. Students learn, through the application of the intersubjective decision scheme, how to maintain the step-by-step design flow and through the described assessment method they practice drawing conclusions. Each of the methods therefore deserves to be considered on its own merits.

Acknowledgements

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Star Status authentic design

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Abstract: Nowadays, we must be prepared for unknown or unexpected situations in design, design research, and design education. We are awaiting changes in standards for the art, design and engineering education system. We are currently facing a new type of communication in the design process. Classical research and traditional forms are changing, and we are searching for new research and development strategies. The Star Status philosophy is viewed in a social context as a section of design process. It is part of the alternative design programme of design thinking, education and training, which also comprises Open Sphere Strategy and Authentic Design Essence. Together they create a flexible system for the action-centric design process, research and education with a spirit of avant-garde thinking. In general, this system can define Designers as Individuals (Stars) in Society Groups (Constellations); they are connected to other members by various Relationships (Status). Some stars form connections, constellations and new compositions with other stars. Through new connections, the stars in constellations create a new composition, new context, new lifestyle. The acquiring and mastering of design drawing is the most credible technique of an autonomous artistic exploration, of drawing as a way of thinking in the most natural form in the designing process, functional as technology in the Star Status Philosophy. The ability to create a visual communication language is an important part in the fusion of the Action Centric independent artistic research and development. As part of interdisciplinary experience, the acquiring and mastering the common strategy in designing process between the designer and engineer, mastering the philosophy and method of design strategy, synthesis of designer drawing and 3D environment are the basic layers of Synergic research and development Design Strategy.

Keywords: design, philosophy, thinking, star, status, society, education

INTRODUCTION

The Star Status design project, Star Status Epitome and Star Status Philosophy for authentic design come from a project and design method based and developed by the creators, from a personal, authentic design strategy. The article explores, analyses, and advances the connections between design research and design education, teacher and student, between colleagues and co-creators, redefining the proximity between design and philosophy with a view to a range of perspectives and different lines of inquiry that designers, creators, educators, researchers and students may find in relation to their independent design-related action. The article presents the Star Status creators' current challenges and opportunities for Research and Education in Design, in these unpredictable times. It explores how openness to other designers, researchers, users and other areas of knowledge and extraordinary interdisciplinary cooperation is understood and how it enhances the ability to go beyond one's field of expertise which removes boundaries to collaboration between disciplines, and how these processes can be accelerated towards tackling the adversity. It also refers to the generation of students fully aware of our collective responsibility in this decisive decade and educators, rapidly adapting ways of teaching design.

A characteristic feature of Star Status design is the concept of development of values by a non-linear design method based on Star Status Independent Intellectual Research and Development using the Star Status Philosophy. This concept has maximised connectivity possibilities between all components, elements, sections and factors of the design process and context. Compared to the current trending methods such as the "Design Thinking" methodology, we see the possible flexibility and depth of new connections and new perspectives in the three-dimensional context space and the actual non-linearity of the design process as a positive difference (Fig. 1). For example, the Independent Star status in the constellation is different from holistic methodology.

"Design Thinking" is one of the methodologies currently used in education. *""Design Thinking" is not an exclusive property of designers; all great innovators in literature, art, music, science, engineering, and business have practised it. (...) What is special about "Design Thinking" is that designers' work processes can*

help us systematically extract, teach, learn and apply these human-centred techniques to solve problems in a creative and innovative way (...)" (Dam, Siang, 2020) So-called "Design Thinking" *"is too general a framework and ideation-based: it is more focused on generating new ideas than understanding how they might work. It often underestimates the strategic context of how specific industries and markets really work. The truth is, it is easy to come up with beautiful, clever ideas without the burden of understanding constraints—but this is where the genuinely transformational stuff is probably hiding."* (Malbon, 2016) Other way, *"human intelligence, mental quality that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment"* (Sternberg, 1998) In Artificial intelligence, despite continuing advances in computer processing speed and memory capacity, there are as yet no programs that can match human flexibility.

Fig. 1. Interpretation of perspective depth using Star Status New Context /Star Status by Martin Baláž and Erik Rejta. (Source: Martin Baláž, 2020)

Nevertheless, we need understanding and flexibility. Hence, the following questions arise: Does standard "Design Thinking" have sufficient tools for the society existing in ecological and pandemic crisis, in situations with which we, both as designers and design users, have no experience? What is the real essence of "Design Thinking" and can everyone understand and use it? What is the designer's role in the age of "Design Thinking"—i. e. design tools for all, artificial intelligence and customer experience in unexpected global problems; what is the designer's work, and how is their role and work changing? Recent experience shows that life's context (Fig. 2) is dynamic and open in movement.

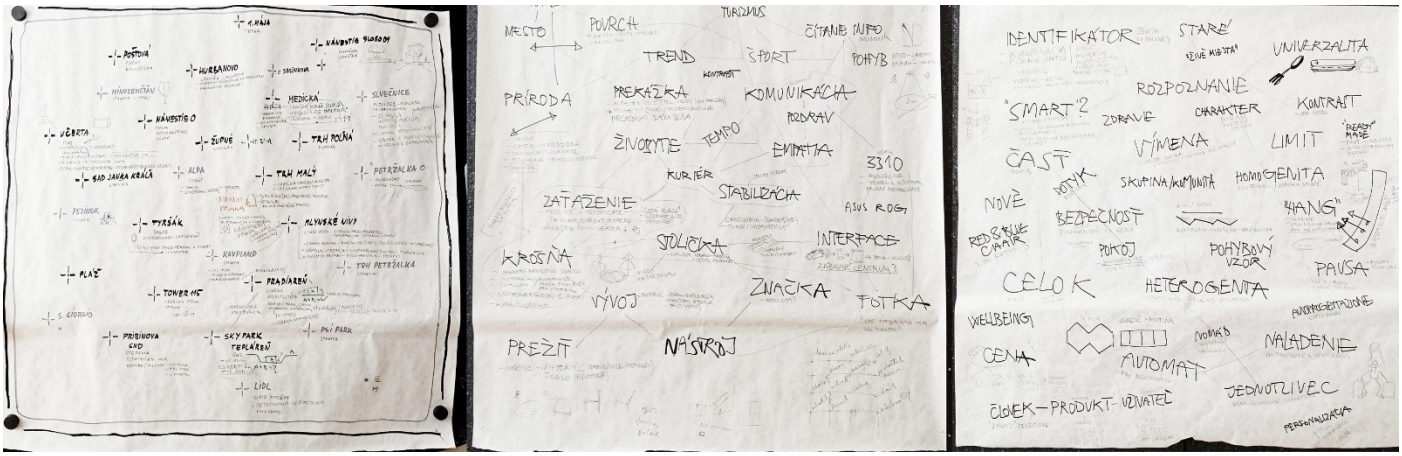

Fig. 2. Example of Star Status context constellation models /GRID project research by Martin Baláž and Erik Rejta. (Source: Martin Baláž, 2022)

The everyday life of a postmodern man is so full of desire for objects and the seduction of a consumer society that people have no time or mental capacity left for anything beyond the everyday life. At the fast pace of life, content is difficult to perceive. The permanent ubiquity of the audio-visual mix has definitely called into question the old-known issue of the place where mental images are formed and the issue of consolidating natural memory. We cannot remember these images; we cannot develop them; we can keep looking for new ones—because new images are constantly being imposed on us. It is no longer the place for a duel of concepts. Where there are no criteria, where the hierarchy is lost, superficial triviality remains. In a world of arbitrary ideas, nothing is more important than anything else. All pleasures and events are equal, so they have no exceptional value; they are mundane. Post-postmodern culture has already resigned itself to the appreciation of anything. In a world of equality of all values, there is nothing to focus on in the light of culture; there is no reason we should highlight something and not notice something. (Mistrík, 2008)

For the reason mentioned above, this article's poses the question: Is the non-linear philosophy of design and designer the missing element of design in the post-postmodern epoch for the post-pandemic generation, for the new lifestyle? Hence, we are currently facing a new type of design, research and communication in the creative process. We, as designers, must be prepared for unknown situations and develop new standards. Our task is to prepare the art of design for the next generation of the avant-garde in a post-postmodern society, where everyone has an opinion, and so it is not easy to define the right values. Thus, in the design process, we must go deeper and work with the design intellect of a product, a movement, space and time to better draw inspiration for the next generation, a new art of interdisciplinary experience—open sphere thinking, synergic strategy and independent artistic research. We are anchoring the Star Status philosophy in general design practice providing a clearer understanding of the difference between standard "design thinking" and a new approach.

STAR STATUS AUTHENTIC DESIGN CREATIONS

For the future, it is important to define the interest of the new emerging society and its new lifestyle, as opposed to the closed view of today's post-postmodern society and to develop and use the authentic design fully, so we must not lose the ability to shape our own path and never stop creating. Through design, we must inspire to lead a way of life in which everyone, in all spheres of life, can contribute to sustainable development. (Fig. 3) The basic component of design is constituted by natural

design created via the Star Status design project, represented by Star Status Epitome (created with Star Status Epitome components).

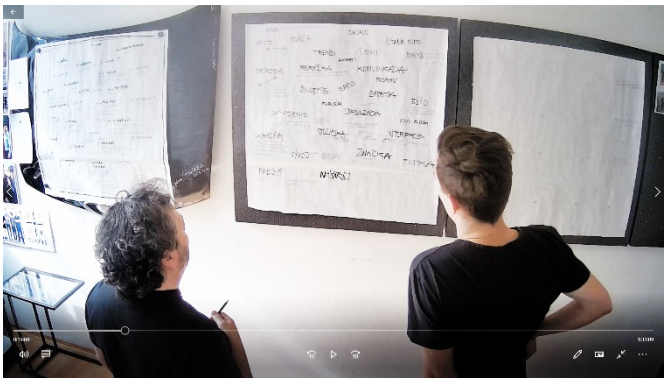

Fig. 3. Development of Star Status intellectual context constellation /GRID project research by Martin Baláž and Erik Rejta. (Source: Martin Baláž. 2022)

Creativity in the design process is often characterized by the occurrence of a significant event—the so-called "creative leap". Sometimes such an event occurs as a sudden insight that the designer immediately recognizes as significant, but often, only in retrospect is the designer able to identify this point in the design process at which the key concept began to emerge. (Dorst, Cross, 2001) Star Status is natural design based on authentic creativity, communication and perception of the constellation of the social context and the relationships between the statuses that make it up. Therefore, it defines a designer as a Star Status Intellectual Creator, a personality with the ability to 'create knowledge' by perception, a "permanent" creator with imagination capacity, based on independent research and development, pushing the limit of perception through emotional intelligence. The designer has a significant impact on the appearance and functioning of the world, and sustainability, aesthetics and inclusion should be considered as the basis of any project designed for a new lifestyle.

Communication is the exchange of information through symbols. Symbols intricately woven into individuals' ongoing perceptions of the world. They seem to contain a vaguely understood capacity that, as one of their functions, actually defines the very reality of this world. A symbol has been defined as any tool that can be used to create an abstraction. The basis of symbolism is the abstraction of values that people put into other people and the things they own and use. (Gordon, 1999) For communication in natural design (Fig. 4), the Star Status project seeks new research tools and provides a platform for their development. When developing such a tool for the intellectual creator, it is essential to work actively with the Star Status Space-Time Atmosphere, the atmosphere of space-time, as a sense of presence, as the only modern moment.

All of these form the Star Status Philosophy, which can be interpreted as the status of a star that moves, changes perspective, takes risks, merges into a new composition with other stars, and in the new connections they together create a new composition and a new context. It represents a non-linear design process, in contrast to a classical linear method, such as "Design Thinking" methods. (Fig. 5) The new structure and proportions of the constellation identify the new interests of society, the fundamental essence of education and innovative design. The Star Status Philosophy of flexible design strategies morphs (or undergoes a change of) the lifestyle, considers both the local and global contexts, and design based on authentic motivation in social action in favour of sustainability, ecology and health.

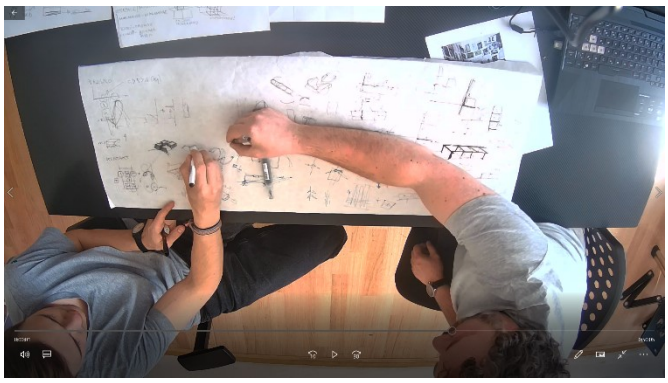

Fig. 4. Star Status authentic communication/GRID project research by Martin Baláž and Erik Rejta. (Source: Martin Baláž, 2022)

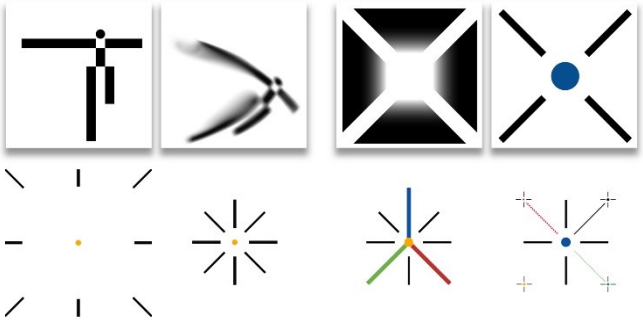

Fig. 5. Star Status Open Sphere/Design Thinking verification by Martin Baláž and Erik Rejta. (Source: Martin Baláž, 2020)

Some action Stars make new Constellations in new Compositions via dynamic heterotopic Connections with other action Stars. The Star Status action in a new dynamic Star Status Constellation and with new Star Status Connections creates a new Star Status Composition, a new Star Status Context Constellation, and new Star Status Context Connections by means of nonlinear operations, unlike the classical linear "Design Thinking" process, mentioned above. A New Star Status Structure and Star Status Connection Proportions of Star Status Connection Proportions of a Star Status Constellation designs, discovers, explores and researches the new depth of the Star Status Constellation, the degree of penetrating the Inside and approaching to the Essence (Fig. 6), to the free invisible World being gradually accepted, identifying the new Interest(s) of Society, and innovative design strategies and methodologies.

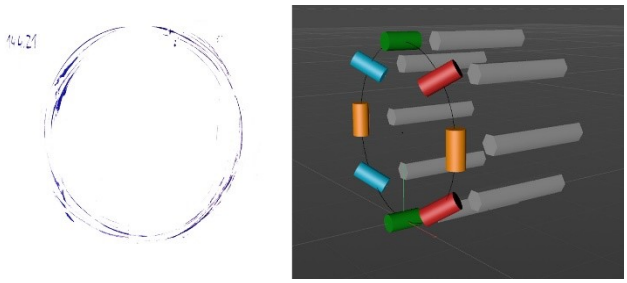

Fig. 6. Inside to the Essence example/Giottos perfect circle by Erik Rejta. (Source: Martin Baláž, 2021)

The Star Status Open-Sphere Design Strategy uses an intellectual, action composition in the designer's mental space, figuratively representing the movement of designer's status in the open realm of perception. This enables a permanent change in the designer's view of the constellation of active statuses, which represent a social context with networked relations. The de-

signer transforms the elementary composition into a new form of composition or imagination, as the primary mental image of the new design and the constant integration of new connections creating an accurate image of the new design with a true Star Status-based Authentic Design Essence. Thus, in designing, the designers retain the ability to discover, explore and observe the world, ask unanswered questions, do not follow a predefined path but make their way through interdisciplinary Star Status components, which they transfer to independent artistic and engineering design, development, research and education. However, the most important in this theory is the work with the design philosophy, method, strategy or methodology, which should not limit the designer: so the author and his colleague verified the developed Star Status Open Sphere design strategy based on the Star Status Philosophy with the expected outcome being the design with a truly authentic essence. (Fig. 7)

Fig. 7. Positive and negative space research, new point of view /Authentic Design Essence by Erik Rejta. (Source: Martin Baláž, 2021)

MATERIALS, DATA AND METHODS

The acquiring and mastering of design drawing is the most credible technique of an autonomous artistic exploration, of drawing as a way of thinking in the most natural form in the designing process (from outlining the problem to searching for ideas and developing the form of an understandable information unit) are functional as technology in Star Status Philosophy. A multimedia presentation, an artistic-expressive drawing of the final design idea or a self-reflective storyboard using classic and digital technology and the ability to create a visual communication language rank among essential parts of the fusion of Star Status Action Centric independent artistic research & development. (Fig. 8) As part of the interdisciplinary experience, acquiring and mastering the standard strategy in the designing process between the designer and engineer, defining the balance between the individualism of the designer's aim and the formalism of the construction solution, mastering philosophy and method of design strategy, synthesis of designer drawing and 3D environment in the design process, dimension, construction and shape analysis, visualization and presentation of projects are the primary layers of Star Status Synergic research and development Design Strategy**,** required in the new art of interdisciplinary cooperation and education also for the creation of an interfaculty module comprising design and engineering subjects.

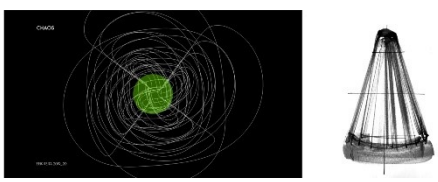

Fig. 8. Action Centric independent artistic research and development example /Chaos and order by Erik Rejta. (Source: Martin Baláž, 2020)

A new important part of the role of designers, exceptional for post-postmodern and post-pandemic lifestyles, lies in sustainability, circularity, aesthetics and inclusion. In this perspective, for a designer, as a star in a star status constellation, it is essential to create connections, constellations and new compositions with other stars in the society. The essence of the star status constellation is connectivity. The Star Status natural design was support through the Star Status Design Dialogue, an international online communication event (Fig. 9), based on the synthetic plasticity of an informal compatible and meaningful dialogue on design in a complex context of all spheres of life. Each presenting expert understands the topics independently in terms defined by their fields of expertise and through their creative, scientific or pedagogical activities. It was the collection of such diverse perspectives on the topic that created a very inspiring and innovative composition of information and ideas about design, art and technology in the online environment. The event was supported by the Umelka Gallery, Slovak Union of Fine Arts, IAA Europe, kreativita.online and Star Status Design. The authors of the Star Status design project (breaking the rules on the sides of the teacher and the student, as well as of research colleagues) authenticated the Star Status Authentic Design Philosophy during the first of the Star Status Dialogue online conference.

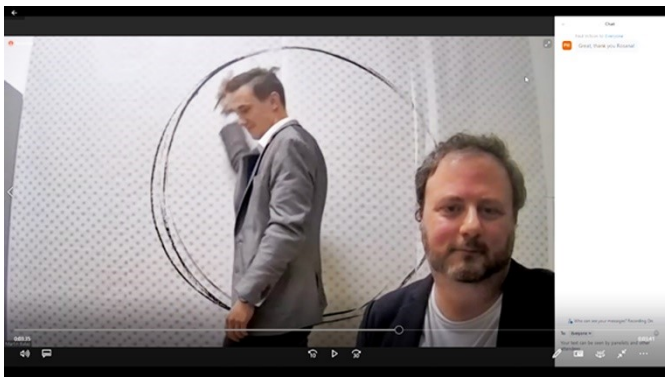

Fig. 9. Erik Rejta (left) and Martin Baláž (right), Star Status Independent action /Mirroring as empathy – SEEYouth International Conference. (Source: Martin Baláž, 2021)

The theoretical basis for design is the Star Status Philosophy, Open Sphere Strategy, and Authentic Design Essence layers, and the goal is to create a so-called Star Status Skills demonstrator to stimulate the imagination of the designer in the process: before Imagination – Imagination – beyond Imagination. The benefit will be the improved perception of morphing and kinaesthetic through intellect, via abstraction to connectivity, compatibility and atmosphere to motivation. The intention is to anticipate the needs of a new lifestyle and strive to work with the emerging society's needs, imagination, atmosphere, intellect, and philosophy. The aim is to create an alternative form of design, harmoniously combining industrial and graphic design to maintain the continuity of the visual culture and philosophy of the future society, determining its new forms and activities. We work with abstracting the designer's abilities, which will support the designer's value: such as motivation, connectivity and compatibility of imagination through the atmosphere and kinaesthetic feeling conveyed in space-time of use, which is defined by several identifiers—spectrum of design perceptions from the point of view of work as art, design or engineering, from the past through the present to the future. The benefit of the design will be the opportunity to use all Star Status Intellect Components and offer space for interaction, collaboration, identification and communication. The Grid project is a current assignment in the Star Status research project. Given the ongoing

pandemic, the design process requires a combined communication through direct contact, such as reactivating the cooperation, and online means, reflecting the circumstances. The topic focused on the analysis of Grid as a reference design system for content structuring: a two-dimensional rational framework, for easy absorption of elements, for the organization of elements with regard to the base, to other elements or other parts of the same element. The assignment and the current situation integrated the communication and brought the development of a new tool for non-linear natural intellectual design as well as a new integrity of Star Status Creator's compatible collegiality. The project included an international workshop, Off the Grid, led and supervised by Star Status creators. (Fig. 10)

Fig. 10. International workshop led by Erik Rejta and guaranteed by Martin Baláž (FAD STU, Bratislava, Slovakia) and Pelin Celik (HTW Berlin, Germany) /Off the Grid, Berlin, Germany. (Source: Martin Baláž, 2021)

RESULTS

The corona pandemic caused a lack of independence. Star Status Capsule Creations originated during the period of pandemic restrictions and long-time online communication. The efforts and strength to work with a teacher at a personal distance in a time critical for students and hence the students' personal growth, developed a new Star Status Proximity. Independent action, the unique nature of Star Status philosophy, explored the concept of mirroring as self-reflection, as a portal to another world, as a clear opportunity and innovative synthesis of arts-based research and design for sustainable and creative interventions for the purposes of student distance learning during the pandemic, which focused on the context of the fundamental understanding with exceptional performance. The Star Status Aesthetic Kinaesthetic Spying and Playing Performance represent direct sensory inspiration as the highest level of the research adventure: knowing that 2D is 3D, via transforming choreography and rhythm movement, using all components of perception, the new art of compatibility in front of the computer, despite the absence of personal contact, non-verbal expressions as the unimaginable depth of the flat space of the monitor's screen. It further allows students to experience a specific situation, it complements human personality, harmonious in mind and body and helps Studio Student evolve and progress through developing the Star Status Motivation, the fundamental inner value of a casual Star Status sympathetic rebel, balancing between the spontaneous and deliberate, intuitively characterised by a difficult-to-define mixture of artistic and technical thinking.

Much space is currently given to verbal communication without the superstructure of 'thinking in drawing'. It becomes attractive experience for idle observers rather than a tool of self-expression. The ability to draw is one of the most valuable skills among designers, their co-workers and clients—and not without reason. Over the years, sketching has proven to be one of the fastest ways for a designer to define problems, explore ideas, and develop form, whether through paper, digital media, or a combination of them. (Olofsson, Sjölén, 2005) We used communication through the Star Status Action, the ability to think in drawing, design drawing at an independent art event as an ice-breaker in establishing contacts and cooperation at our and other partner schools abroad.

The Studio Baláž, Faculty of Architecture and Design, the Slovak University of Technology (FAD STU) in Bratislava, Slovakia, emphasises authentic design and is based on independent intellectual development through the Star Status Epitome components. It integrates these interdisciplinary avant-garde value components through independent design in terms of inclusion, sustainability, aesthetics and quality of experience beyond functionality, allowing it to specialize in design designed for the new lifestyle of the evolving post-postmodern, post-pandemic generation. By developing the ability to analyse and understand the context and use a wide range of creative design strategies, it implements and applies independent artistic research, defines and creates original visual language, develops new creative and communicative processes and can initiate and support the development of new technologies, processes and interdisciplinary synergies. This goal supports using "Action-Centric" tools of independent artistic research and synergistic development. The semester theses specialized in defining the interest of a new society, affected by the ecological and pandemic crises, leading to a new lifestyle, design-morphing lifestyle, based on authentic motivation in societal action in favour of sustainability, offering education and support. The interaction of cooperative design, creation of a unique visual language and the harmonization of design and engineering into a new whole is a fundamental compositional element of design and the basis of the process of origin and change. The Projects Collection explains how using Star Status Design philosophy in the design studio Baláž at the Institute of Design, FAD STU in Bratislava, Slovakia, allows focusing on complex defined topics for the new lifestyle of the post-postmodern epoch.

For example, semester projects "Inspiring mobility" and the research project "New designs in mobility" offer an independent view of auto-mobility in various forms and contexts through design, research, projects, and also an authentic design action, which allows finding new contexts, not only as to the perception of brand identity, the language of shapes, but also the importance of designer's imagination in the design process. The "Authentic Motivation" project (Fig. 11) aims to design an inspiring and motivating service system of aims to design an inspiring and motivating service system of circular economy in public space, metamorphosing the 'space-and-time-of-use' philosophy. The new product philosophy is already indicated by the philosophically conceived name of the topic, which forces the designer and user to think about whether philosophy is superior to experience or visuality. The work should bring the currently often absent element of motivation in societal action in favour of sustainability and ecology and at the same time, offer the possibility of educating the user of this system and supporting user's correct decision-making.

The "Kinaesthetic design" project (Fig. 12) shows that our perception is currently dominated by visual and auditory systems of perception, the quality of which, however, depends on the kinaesthetic system. Similarly, depending on their joint integration, the quality of other functions, such as speech, coordination, emotionality, activity or attention is contingent. The project pursues a kinaesthetic design that evokes a kinaesthetic feeling, a movement feeling related to the perception of movement, evoking a movement reaction, movement in space and time. The required movement or positioning of the body in order to perceive and process new information from the environment and

subsequent action in which body is moving or positioned in space-time is the basis for the formation of space where consciousness can experience spatiality.

Fig. 11. Studio Baláž Project: Authentic Motivation by Erik Rejta, FARO. (Source: Martin Baláž, 2020)

Fig. 12. Studio Baláž Project: Kinaesthetic Design by Juraj Kotoč, STATERA. (Source: Martin Baláž, 2021)

The fusion of Action Centric Independent artistic research and development is critical in the design process in the studio. It is based on communication, presentation and self-reflection of ideas through design sketching and visual design language, both analogue and digital, with the influence of fine arts. It is implemented and expanded through sketch battle, dizajnerskakresba.sk project and many international workshops and presentations enhancing the networking within the community. The interdisciplinary approach of the studio is based on Synergic research and development of design strategy, coupled with synergic design strategy education. It further builds on contacts or collaboration with various companies and institutions, outland universities, other faculty institutes, faculties, for example, on the established cooperation with the mechanical engineering faculty through a synergic module of teaching.

DISCUSSION AND CONCLUSION

The Star Status Thinking Plasticity—a simple Design Sketch of a Star Status action of a dynamic Star Status Constellation in an authentic space-time atmosphere, representing society context, morphing the visual design philosophy into transcendent with a constant plastic integration of new objectives, a non-linear action fusion of communication. Star Status Creators Compatibility and Proximity represent the so-called Star Status Body; Action and Anima Creations unite the development, research, and education build on Star Status Creator's creative experience. Star Status Body Creations are about design shapes, their transformations, the beauty of the world, and the beauty's role in society. On the one hand, an anthropomorphic object, having faces, muscles, and the sensory tension, on the other hand, a revolutionary, sharp and geometric object, where every single element is ground-breaking, a combination of technical and aesthetical research: the most complex Action Creations are based on the independent view in various forms and contexts through authentic action design interaction, so-called "Star Status Action Design" by Star Status creators. It is about designing, focused on physical actions in bodily movements. Mental actions, however, are a different type of action: completely distinct from physical actions, rationally or irrationally, depending on the reason for which they are performed. For example, independent artistic exploration is a way of thinking in the most natural form in the designing process. Particular heterotopic interdisciplinary Anima Creations develop the accurate picture with subjectivity to objectivity, are the result of natural osmosis, of the transfer of matter between two phases, separated by a third phase, i. e. the indirect infusion.

Another challenge is the communication in the creative process of online designing. During the assignments, the cooperation between Star Status Project and studio Baláž goes through topics such as authentic, inspiring or iconic design, up to the so-called Star Status Capsule Creations, topics such as Authentic Motivation, Terra-Morphing and Kinaesthetic Design. Influenced by the Coronavirus pandemic and permanent online form of communication, these focused on defining the interest(s) of the new society, "Interest solving" leading to a new lifestyle. Movement is the basis of the process of origin and change; it is the basis of perception, and perception interacts with thinking to gain knowledge. Star Status Capsule Creations include Star Status Capsule Design Layers.

Space we inhabit is created by physical entities full of designs, experienced as in the present, the artefacts we use daily, and devices in our hands. We must also solve our interest and project design for immaterial space for the future. Products have authentic continual social, cultural and mental statuses beyond their "object" status. The designed object is a complex of material, social and spiritual values, compatibility of the tangible and intangible overlaid layers. Star Status Capsule Design is connected to this essence. The nowadays' fast (i.e. not the classic) complexity of virtual and digital experiences, during the pandemic, brings intangible design at the very moment of their inception, blurring the difference between the object and the experience. Despite continuing advances in computer processing, there are no programs that can match human understanding and flexibility. Star Status Capsule Design Layers answer the questions as to how do we live in the real world? How do the designers engage with "being in the world" through the medium of a screen? What is the designer's role in the situations where we, as both designers and design users, have no experience? What remains of the "aura" of the design object? Star Status Capsule Design Layers in the past, present, and future and from the perspectives of from design, culture, social, technology, and the arts overlay our heritage-related ideas and future physicality concepts. It is based on the composition of the Core Layer, a synergic collection of essential Items, Superior Layer, a collection of essential items & elements of style and Super-reality Layer, a collection of Star Status Epitome Components as the basis for Star Status Authentic Design.

Star Status Move Morphing means a Change, Essence of unity of origin and extinction, with which we never accept the world as it was given to us. Star Status Another World Compatibility changes, redefines the Proximity as understanding, based on harmony as an analogy of contrasts: on individuality with objectivity, on beauty with function, via the Star Status Thinking Plasticity. From the Star Status point of view, the Real Star Status Constellation, the new Proximity is a logic picture in a 2D

plane with formal logic, but with permanent change of point of view after morphing via morphing point in designer's mind, it is a 3D Structure with Space depth and Scale, with sculptural logic—a Super-Real Star Status Constellation.

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Summaries

ASSESSING THE URBAN DESIGN QUALITIES OF THE URBAN STREET: A CASE STUDY OF SYLHET, BANGLADESH

Mohammad Tanvir Hasan, Mustafizur Rahman, Tanjami Siddika

Keywords: urbanization, mobility, urban design qualities, walking preferences, Zindabazar

The growing tendency of reckless urbanization in many cities of Bangladesh has upstretched force on an urban street, one of the features of urban structure which ties many areas and scope to move to another portion of the city. Historically, walking is celebrated as the major mode of transportation, cheapest as well, particularly in this agriculture-based region. The practice of walking ensures the development of mental health, and social interaction and promotes sustainable public mobility. But the pressure of urbanization forces the walking environment in the street to perish. Research shows that walking preferences vary among pedestrians. Along with other factors, the urban design qualities of the street significantly stimulate the walking tendency in the street. Urban features like land use, circulation, connection, human scale, landmark, vista, street façade, and other factors may help generate urban design qualities of a particular area. In Sylhet, a city in north-eastern Bangladesh, the urban development process follows top-down approaches, and the reaction and perception of the pedestrians are less recognized. Here, the pedestrian has an option for walking but not a place for social interaction, health benefits, and little priority is given to walkers. The major streets of Sylhet have recently been widened and ornamented with various street fixtures but the question arises: does this progress placate the urban design qualities incorporated with the walking trend? Mostly, interferences aim to solve a current problem like the traffic congestion or lack of space for pedestrians. Research on urban streets or walkability focuses on a quantitative approach where problem-solving is the main agenda but the perception of users and qualities of the street remain unnoticed. In addition, a significant research gap is quite evident which is described on the urban design qualities of the street in Sylhet. Therefore, the purpose of our research is to identify the urban design quality of a major commercial street in Sylhet. The research attempts to identify the qualities which have been explored by Ewin and Handy in 2009. Eight qualities such as enclosure, legibility, human scale, transparency, complexity, coherence, linkage, and imageability are examined by a comprehensive questionnaire survey. A particular group of students from the architecture department, who are familiar with urban design, understand the terms of the urban design qualities, and are also acquainted with the case study area, used the Likert scale to measure the quality of the street. This research identified a subtle significance of urban design qualities on user preferences for walking in the commercial street of Sylhet. Most of the qualities are absent and not considered during street development. Although, there are a lot of opportunities that exist in the present urban fabric to increase the urban design qualities. This study can provide a potential method to identify other street qualities in Sylhet and also can contribute to making

the pedestrian ways a place rather than only an option for transportation. The research was focused on a particular area that does not explain the overall quality of Sylhet city.

ON THE INCOMPLETENESS OF MUTATION: INTRODUCTION TO PRETORIA REGIONALISM

Cornelius van der Westhuizen

Keywords: South Africa, Pretoria Regionalism, vernacular architecture, modernist architecture

This article introduces an often-overlooked southern African city to the global urbanism and architectural discourse. The focus is thus on the architectural heritage of Pretoria, the administrative capital city of South Africa, and the author further investigates and broadly documents the Pretoria Regionalist style. This contextually inspired interpretation of the Modernist Movement is put under the spotlight and the historical events and circumstances that formed this stylistic mutation are analysed and documented in broad strokes. An abridged timeline of historical events, which places the founding of Pretoria into context after the great exodus (1830 – 1840) of the Afrikaans-Dutch speaking people from the Cape Colony (est. 1652), and documents the original urban planning and development, provides an overview of the architectural influences from Europe and the African landscape, and subsequently introduces the term the Third Vernacular used to describe the locally inspired mutation of the Modernist style in the academic architectural discourse. This paper briefly describes and introduces the terms such as the Zero Vernacular, the First Vernacular, and the Second Vernacular, in respect of the timeline of architectural and urban development in South Africa. Each of these terms is associated with a different historical period – and by extension, a unique architectural style, and narrative characteristics of that specific period – in the history of the country. In addition to its introductory role for a new professional audience that may be unfamiliar with the South African architectural works, this paper also explores the various academic writings that cover the built environs of Pretoria. It is there that the term the Third Vernacular has been defined by Roger C Fisher, and discussed at length in the compendium, Architecture of the Transvaal. The Third Vernacular references and describes in detail the most significant architectural design style that underpinned, and that specifically dominated the Modernist period in Pretoria. In this definition, the influences of the social and cultural, as well as the natural landscape, contribute to the understanding of the phenomenology of this style's characteristics. Subsequently, the unique identifying built elements that are universal in the architecture are also further documented and illustrated through the study of some iconic built structures. The contextually specific projects that were identified are discussed as examples of the artistic and cultural expressions of the architects that created them. Moreover, it is worth noting that these projects also display a level of master builder craftmanship and understanding of the construction materials – all of which reflect the landscapes of Pretoria. Another significant area of focus in this article involves the various uses of brickwork and artwork in the creation of architectural sculpture. This regional appropriate style is not only a reflection and interpretation of the surrounding landscape, but it also expresses the lack of materials and industry in the South African Republic, in contrast to Europe where they were more widely available during the same period. Thus, in support of the new technical terminology, eight seminal architectural projects are listed, analysed and described within the context of the Third Vernacular (or the Pretoria Regionalist style). These projects have been selected for their unique interpretation of the Pretoria Regionalist style and represent a significant period in the history of the city and its context. This paper also identifies the architects that were central to the development of the architectural discipline in Pretoria and South Africa. Reference is made to the influence of Le Corbusier on the Transvaal architects, the Congrès Internationaux d'Architecture Moderne (CIAM), and the involvement of the South African architects in the global discourse. Consequently, this paper focuses on the works of Norman Eaton (1902 – 1966), one of the most significant Pretoria architects of the South African Modernist time, whose built works most eloquently exhibit the cultural aspirations of the city. Furthermore, additional reference is also made to the design and theoretical influ-

ences from South America, namely Brazil and the Brazilian Modernists, after the Second World War and the cross-Atlantic exchanges that further developed the architectural language of the Pretoria Regionalist style. The chronological timeline of projects discussed and illustrated in this paper analyses the mutation of the various international influences, at both the civic and residential scale. This timeline gives an insight into the growth of the city from its fine-grain urbanism before the Second World War into a modernist capital dominated by tall buildings. Thus, the city and its urban structure and the architectural projects are analysed, and the transformation from a Calvinistic styled communion gathering place into a metropolis of the African continent. It is through these various lenses of culture and Afrikaner society and history that the architecture is introduced and placed into context, within the city, and within its historical framework.

BAŤOVANY – (RE)VISIONS OF A MODERN TOWN: SEARCHING FOR IDENTITY

Veronika Vaňová, Jana Pohaničová

Keywords: Baťa architecture, linear town, industrial town, identity, Jiří Voženílek

The town of Partizánske, formerly known as Baťovany and built according to the design of the urban development (zoning) plan of architect Jiří Voženílek (1909 - 1986) from 1938, represents a unique urban-architectural achievement not only in the context of Czechoslovak functionalist architecture, but also with regard to the emergence of modern European cities in the first half of the 20th century. Its original Baťa image with the remarkable idea of a linear industrial town and a number of structural and building innovations in the field of architecture, such as modular construction, prefabrication, brick design, unique construction system, etc., co-create the town's identity even after so many years and its original urban, architectural and historical value is still apparent. If we do not protect these values, the town will gradually lose its identity. In this respect, the key aspect is the re-identification or (re)vision of the historical, architectural-urban, industrial and cultural values of the original industrial town concept and the subsequent confrontation of this model with the current demands of the town residents as a way to rediscover the disappearing identity with an emphasis on preserving and maintaining the exceptional values of Baťa architecture and urbanism. The formation of Baťovany is linked with architect Jiří Voženílek (1909–1986), a graduate of the Faculty of Architecture at the Czech Technical University in Prague. On 20 April 1937, he started working for the Baťa joint-stock company in Zlín. He gradually worked his way up, becoming a renowned architect and urban planner with successful projects even outside of former Czechoslovakia. Voženílek's works of urban planning reflected the uniqueness of Baťa architecture. His Urban Development Plan was designed in 1939 – 1943 according to the principles of an ideal industrial town. Modifications to the original urban development plan followed a short time later. Both the emerging development of the town in years 1941 to 1947 and the construction in the 1960s followed the principles of Voženílek's concept. The biggest changes took place in the period of 1960 - 1990. Socialist neighbourhoods no longer respected the original urban development plan, as did the high-rise residential building in the centre of the main square. Partizánske (Baťovany), is an example of one of the few ideal industrial cities of the world, and can still project its unmistakable identity and character of the Baťa area, despite the inappropriate interventions made at the turn of the 21st century. This observation is made primarily by various specialists and other professionals, however, the attitude of the residents to this academic perception of the identity of the town is somewhat mixed. Current urban concepts and regulations do not contribute to the preservation of the town's identity, nor do they lead to sustainable town concepts of the future. Baťa identity consists of the following phenomena, which are still apparent in the image of the town of Partizánske: the unique history of the town connected with the world-famous Baťa joint-stock company, exceptional urbanism, including the square with the dominant church by Karfík, the architecture of the industrial complex and the construction module of industrial buildings 6.15 x 6.15 m, Baťa residential architecture and also the inhabitants of the town who perceive this identity as their cultural heritage. Červená Street serves as an illustrative example of how the identity of Partizánske can be worked with in the present. The street is located in a part of town where – even without cultural heritage protection – the original single-family houses have (at least partially) kept their unplastered brick facades, including the materials used and the spatial structure of the objects. What contributed

to this was the fact that this location has retained a collective awareness of its uniqueness and the need to preserve its identity. What tools can the residents and the municipality use when renovating and extending the buildings so that the town's unique character is preserved? New information and research show us effective ways to approach the protection of cultural heritage which will allow the public and professionals to preserve the identity of the town and the place. To this day, Partizánske has not adopted any concept of functional territory or object-focused monument protection of Baťa heritage. As to the possible solutions regarding monument protection and preservation, restoration or reconstruction of the original Baťa architecture, there is a lack of open communication between the Monuments Board, experts - historians, architects and urban planners, town councils, civic associations and town residents. In this context, our research also focuses on cooperation with the inhabitants of the town and introduces them to possible solutions for the preservation of the unique architectural, urban and cultural heritage. Public participation (mental maps) and a manual to Baťa architecture in Partizánske could also help, which could facilitate the way to achieve the protection of a unique phenomenon. Without any protection for the objects and areas relevant to the town's Baťa heritage, the town's identity will gradually disappear, and we will lose unique architectural and urbanistic values, which – as cultural heritage – are of European or even global importance.

ARCHITECTURAL EDUCATION IN THE CONTEXT OF SOCIAL SCIENCES

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Keywords: social sciences, education, engagement, design process

Interdisciplinary thinking is an unavoidable part of the design process for a creative architect. At a time of increased socio-ecological requirements, we cannot simply consider permanent spaces and architectural objects to be the result of a creative process, but rather to be the products binding together a myriad of contextual relationships and responding to socio-psychological, ecological, economic and other challenges. The user becomes the subject in the forefront of permanent architecture and eventually defines and rates the "user friendliness" and the "value" of a building, thus becoming its primary critic. The future of architectural and design-led education therefore lies in the interdisciplinarity of education. Complementary subjects, particularly social sciences, are often missing from the curriculum. Linking academic research to social sciences is a lesser part of the research practice. Social sciences in the context of architectural research thoroughly analyse the needs and preferences of users. It is envisaged that architecture students working in conjunction with a practitioner in the field of social sciences and using sociological research methods will be capable of creating proposals which optimally respond to an assignment blending with the architectural and sociological research. New approaches towards studio work are focused on methods and tools guiding the evolution and evaluation of design from the point of view of material innovation, longevity and analysis of expenditure. The participatory approach to the methodology of teaching studio work is an important method aimed at the process of integrated design in architecture. It offers students a cultural background on user needs and more realistic limitations which contribute to a more complex proposal. There are several means of running co-creation training opportunities in education. If circumstances allow it, real-life participation – investor's representatives, users, local authorities, social institutions, local community groups, etc all participate in the process. The initial stage consists of a site visit and different presentations and assessments; the following steps are selective and usually consist of defining user priorities and establishing design strategies. Lectures by invited experts in other scientific disciplines, briefing and workshops could be complementary components of the process. Prototypes developed by students are then subject to peer review, transparent discussions with the represented parties, in a single or two-phase approach. An example of the effort to establish a complex approach to architecture is the use of participatory design based on the cooperation of several parties, usually investors, designers and users. The term first appeared in the 1960s and its understanding has gradually evolved ever since. Whether architects, designers or engineers are designing a new space or revitalising an existing one, current and future users will be ideally involved in the process. Past users are best placed to interpret priority needs, social

interactions and routines due to a greater level of familiarity and can therefore be instrumental in establishing the elements that are likely to improve the quality of future usage. While case studies of co-creation methods used in an architectural context are increasing, the use of these methods lies primarily in the front-end of the design process. Participatory co-creation methods are being utilized by architectural schools to understand students' views on space configuration and possibilities for design. Applying various co-creation methods is accompanied by a number of related occurrences drifting into the field of sociology, psychology and other scientific disciplines. The participatory approach is closely related to the understanding of the mutual relationships between professional design proposals and real user requirements. The process therefore underlines "assertiveness in designing", enables the ability to communicate assertively and the tolerance to different opinions or differences in general. According to the study "A theory for integrating knowledge in architectural design education", it is crucial to initiate and inspire educational institutions and future designers towards a more complex approach to the design process. Considering the proposal as a purely functional and aesthetic spatial object or a product of one's own creative ambition is not sufficient. An outlook on the creation process, reduced to this way of thinking, leads to a diminished quality of the final product as well as the quality of education, which loses touch with a broad range of relevant requirements. The participatory design team becomes a community of people who communicate and share common and diverse opinions, thus creating a form of social interaction, the experiencing of which is crucial for the development of healthy individuals and well-rounded experts. The lack of sufficient social interaction often results in the inability to accept the most natural difference of opinion, a lowered threshold or outright refusal to accept diversity in all shapes and forms. This can be observed in the creative process through the absence of user-focused and need-focused proposals in the first instance.

STAR STATUS AUTHENTIC DESIGN

Martin Baláž

Keywords: design, philosophy, thinking, star, status, society, education

"Design Thinking" is one of the methodologies currently used in education. It is not an exclusive property of designers and in combination with artificial intelligence we can see new horizons; but, does standard "Design Thinking" have sufficient tools for society? What is the essence of "Design Thinking", what is the role and duty of a designer and how is the designer's work changing? Life is dynamic, open in movement and for this reason we are currently facing a new type of creative process. Thus, we must go deeper and work with the design intellect of a product, a movement, space and time, a new art of interdisciplinary experience—open sphere thinking, synergic strategy and independent artistic research. Design morphs the lifestyle based on authentic motivation in societal action in favour of sustainability, ecology and health, offering the possibility of educating the society. We need design that motivates the user to take self-reflection and inspires morphing of the current functioning of society. The Star Status Philosophy tells the story of a star does not stand still, but is moving, it changes the angle of view, advances into the unknown, takes risk, wonders what is coming. It is a star that is curious what it will be like and never follows the outlined way, connects to form new compositions with other stars in constellations and, through its new connections, it always creates a new composition, a new context, via non-linear operations. The new structure and proportions of star constellations identify the new interests of society, important essence of education and training, innovative design strategies and methodologies. The Open Sphere Strategy uses an intellectual action composition in the designer's mental space, representing the movement of the designer's or observer's status around an open-sphere orbit line in real space-time and allows a permanent change of view. While morphing this status in the mind, a designer morphs the then actual composition into a new composition form. The result is a real design action and interdisciplinary fusion and finally, a real new design for a new lifestyle. We verified the developed Open Sphere design strategy based on the Star Status Philosophy with the expected outcome being a design with truly authentic essence. The process will further be subjected to experimentation, harmonization of composition and construction in an effort to achieve balance and a new atmosphere to produce a

new design for the new lifestyle and emerging target group. The authentic design essence comes as a result of an alternative form of design and supports the intellectual evolution of design in the post-pandemic era, as a new art of interdisciplinarity, the basic layers of which are constituted by the Synergic Design Strategy. A new important part of the role of designers lies in sustainability, circularity, aesthetics and inclusion. For a designer, as a star in a star status constellation, it is essential to create connections, constellations and new composition with other stars in the society. The [theoretical] basis for design is the Star Status Philosophy, Open Sphere Strategy, Authentic Design Essence layers and the goal is to create a so-called Star Status Skills Demonstrator to stimulate the imagination of the designer. The benefit will be the improved perception through intellect, via abstraction to connectivity, compatibility and atmosphere to motivation. The intention is to anticipate the needs of a new lifestyle and strive to work with the emerging society's needs, imagination, atmosphere, intellect and philosophy. The aim is to create an alternative form of design, harmoniously combining the continuity of the visual culture and philosophy of the future society. The benefit will be the opportunity to use components of the intellect and offer space for interaction, collaboration, identification and communication. Using the Star Status Design Philosophy in the design studio Baláž at the Institute of Design, Faculty of Architecture and Design, Slovak University of Technology in Bratislava, Slovakia, allows focusing on complex defined topics for the new lifestyle of the post-postmodern epoch. The studio builds on the independent intellectual research and development concept with the Star Status Philosophy, Open Sphere Strategy and Authentic Design Essence, as parts of the education method used. All topics are about defining the interest(s) of a new society, internally called "Interest solving", leading to a new lifestyle, as opposed to the stagnant view of post-postmodern society of today. The fusion of Action Centric Independent artistic research & development is an important part of design process in the studio. The Star Status Philosophy creates a flexible system for action-centric design process. The Star Status design philosophy will contribute to the application of alternative forms in education, with an impact on further creative performance or change of thinking and/or perception and will thus shape designers' assumptions. Exploring and connecting different perspectives is the foundation of the Star Status Philosophy, which changes the predefined links for flexibility and provides an opportunity to develop new design practices for unpredictable reality, as part of a designer's intellectual role focused on action with the spirit of avant-garde thinking, as opposed to optimization. The result is the action and interdisciplinary fusion, and perception interacts with thinking to gain knowledge.

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