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**ASSESSMENT  
of a doctoral dissertation  
by mgr inż. arch. Dany Matouk:  
"Palmyra. The Rise and Fall of the City".**

Dissertation supervisor: Prof. dr hab. inż. arch. Andrzej Gawlikowski

This review was undertaken pursuant to an instruction by the Warsaw University of Technology Faculty of Architecture Rector. The assessment was carried out on the attached copy of the doctoral dissertation comprising 174 typewritten A4 pages in English.

After thoroughly reading the presented doctoral dissertation, I conclude that it satisfies the statutory requirements associated with the procedure for conferring a doctoral degree. The doctoral dissertation by mgr inż. arch. Dany Matouk, prepared under the tutelage of supervisor prof. dr hab. inż. arch. Andrzej Gawlikowski, constitutes an original solution to the scientific problem set out in the dissertation. The author exhibits general theoretical knowledge within the scope of architecture and urban scientific disciplines as well as the ability to perform scientific work independently.

**ASSESSMENT JUSTIFICATION**

The doctoral dissertation presented for assessment treats research on transformations of urban structures. The research is based on a case study of one particular city - Palmyra in Syria.

The intention of the author is to solve a scientific problem constituting an explanation for urban structure development mechanisms in a historical aspect and to identify characteristic dependencies between cause and effect resulting in a city's growth and decline.

In the analytical section, the author subjected the actions of partial factors which influence the establishment, growth and regression of a city to a critical diagnosis. The synthetic section is devoted to seeking inter-factor relationships and to defining generalisations on the basis thereof which facilitate the creation of a concept for the reconstruction of Palmyra.

The research concerns a problem area and opens up new directions for research on the development of urban structures.



At the outset it should be noted that the author is Syrian, someone who witnessed the atrocities of the armed conflict her country is suffering. She witnessed the destruction of cities which were part of world heritage: Palmyra, Aleppo, Damascus and Homs. From the perspective of a direct observer of these tragic events, the search for objective explanations for the growth and decline of these cities is particularly difficult.

It should be appreciated that the author avoided simple generalisations and explanations of the problem, which are present in many methodological interpretations. Out of these, the most common are theories based on a naturalistic development model, treating urban space as a place where competing interests are at play, reducing urban planning to forecasting changes based on extrapolating diagnosed trends.

Many interpretations of this approach speak of an "urban ecosystem", by analogy to natural ecosystems, where constant rivalry for resources takes place between species in a given ecosystem. For human societies, that competitive struggle for resources (space, markets, access to capital, raw materials, etc.) is used to explain social inequalities, conflicts and wars. Attempts are made to explain city transformations on the basis of natural selection, where those that are best adapted (financially, organisationally, technologically) to the changing conditions, win. The rise and fall of cities, as well as their spatial and social structure (the Chicago school for example) may also be explained by rivalry and competition.

Theories stemming from a cultural city growth concept oppose the above approach. Here it is considered that natural selection does not apply in a world of reason and ideas. Emphasis is made on the inapplicability of naturalism to a human society, which exhibits reason, from which culture flourishes. Under such an approach, where culture is the driving force behind transformations and urbanism conveys cultural experiences. To support such a view, one may pose the following question: do urbanism, architecture, music, painting thrive on the basis of natural selection? Did Renaissance replace Gothic style because the latter was less well adapted to the environmental conditions? Primitive naturalism is not applicable to a human society, which exhibits reason, from which culture flourishes. Culture is the driving force behind transformations and a city is a record of cultural experiences. Thus we are able to picture, compare, evaluate and create our surroundings. We are not condemned to just genetic instinct and continual rivalry but are able to develop ideas coined in the minds of outstanding creative individuals.

The author considers Tadeusz Tołwiński to be one such individual. The research presented in the doctoral dissertation under review was inspired by his urban factors theory.

Tołwiński writes that "A city arises as a characteristic symptom of a country's culture at a given level of its development". A city's structure is the outcome of historic transformations taking place under the influence of conscious human actions subject to a number of factors, which, according to Tołwiński include the

natural conditions factor, economic factor, communication factor and as well as the moral and legal factor.

And it is these factors that the author takes into account when analysing the rise and fall of Palmyra. And she also uses these factors to create a proposition for the reconstruction of the city from the devastation brought about by war.

The subject-matter of the dissertation constitutes a justification, elaboration and verification of the thesis, which states that urban factors with a "positive charge" play a creative role in the transformation of urban planning structures, whereas the same factors, but infused with a "negative charge" exhibit calamitous and destructive properties.

A thesis formulated in this manner, in its original form expands upon the theory of Tadeusz Tołwiński, by seeing the positive or negative role of urban factors depending on their "charge" (positive or negative). In other words, the city structure during various periods in history is the result of urban factors' actions, which in turn, influenced by human intervention may assume a positive or negative form.

Taking into account the presented facts, one should ascertain that the doctoral dissertation by mgr inż. arch. Dany Matouk deals with a current subject, and the presented approach is in line with contemporary urban research trend.

The author discusses Palmira rising and falling, its periods of magnificence and regress. She indicates that on many occasions the city was destroyed and subsequently rebuilt, it went through periods of bloom and devastation. She accurately associates these events with positive or negative actions of urban factors, referred to by Tołwiński.

However, where Tołwiński looks to the past, the author depicts a vision looking into the future. She focuses on the timelessness of those factors, and argues that urban planners may use the changes taking place in a creative way. They can even inspire these changes. A skilful adaptation of these factors may play a part in the rebuilding of Palmira, one where historic traditions and bonds are retained.

Thus the research is geared towards those circumstances which facilitated the establishment and bloom of the city as the hub of a great civilisation and towards a creative use thereof in the rebuilding of the city from wartime devastation.

One of the objectives of the research is to identify relationships, which, after the latest destruction of the city, could contribute to its next heyday through creative use of the "positive charge" and positive inter-factor relations.

Another, equally important research objective is to identify methods for preserving Palmyra's cultural heritage and to show that these methods may be effective in rescuing heritage in other cities which also suffered destruction.

The author identifies the complexity of the urban fabric – not only urban composition, but also history and local tradition, and most importantly, the outstanding individuals who created it. In the performed analyses she turns to the

past in order to depict the ways in which the city transformed in the past and how the analysed circumstances affected its form. In investigating developmental conditions, she suggests a type of analysis which takes into account transformations' history, tradition and local cultural norms. Selected urban factors constitute one of the bases for the suggested revitalisation solutions. The author interprets them as elements rooted in specific social, economic and historic conditions and not as abstract creations independent of the context. This is a type of a creative adaptation of Tadeusz Tołwiński's theory.

She suggests using the economic factor with a positive orientation towards safe tourism, archaeology and education with an active participation by Syrians together with teams from abroad. In these actions she notices an opportunity for generating revenues until such time as agriculture, based on palm and olive tree farming, begins to bring in profits. On top of that she also includes the health factor, promoting a healthy lifestyle, associated with the use of undepleted natural resources, including mineral springs.

Reconstruction of the communication network is another positive element which can be used for Palmyra's revitalisation. The author puts forward a "Golden triangle" concept, connecting Palmyra, Damascus and Aleppo. Adaptation of the current military airport for passenger and cargo transport is a significant component in the activation of communication.

The performed analytical studies have led to an identification of the most important tasks in the rebuilding of Palmyra. Amongst these the doctoral student mentions the following:

- development of the communication network,
- intensification of archaeological efforts, construction of an International Archaeological Station (IAS),
- enhancement of tourist attractiveness,
- reconstruction of the destroyed infrastructure,
- new residential areas and services,
- reconstruction of the unique flora and fauna environment,
- new open public spaces systems.

The author, in an inspired manner, includes a fourth dimension to her urban analyses - time. Despite the city's destruction in three dimensions, time, recorded in collective memory and tradition is still intact. In her research, the urban form applies to both space and time.

In modern urbanism, the spatial form concept has been thoroughly researched and identified, whereas often the time form has been omitted. Perhaps this is the reason why urbanism (as opposed to music for example) did not develop a homogenous notation for time forms. Yet time composition, associated with a sequence of events, their permanence and associations, is very important in urbanism.

The doctoral student suggested an original format for recording time composition in the form of diagrams, where on the time axis (x) she ordered

significant events which impact the shape of the city, and on the perpendicular axis (y), the facts associated with negative or positive actions of urban factors: natural, economic, communication as well as religious and legal conditions. (pp 47-52), That original format for depicting a four dimensional urban structure was used for in-depth analyses in chapters 4.2 (pp. 72, 74), 5.1 (p. 87), 5.2 (p. 98), 6.1 (p. 112), 6.2 (p. 120) and 7.2 (p. 136).

The proposed analytical - sequential method using diagrammatic notation in the process of creating design concepts is a significant research achievement for the author.

In my opinion, that research tool brilliantly augments scientific reasoning. The diagrammatic notation, as a data synthesis of a kind, facilitates an identification of key relationships, significant for the creation of an urban composition.

The presented diagrams fulfil important cognitive functions. They are also an auxiliary tool for the creation of urban concepts presented in chapter 8.1. "New Palmyra and Its Surrounding Region in the Structure of Post War Syria".

"Diagramatisation" is a cognitive element describing how knowledge of history associated with Palmyra's past may be used in order to solve urban problems. An in-depth analysis of relations between the diagrams and their design application in the form of an urban concept confirms the effectiveness of the adopted method.

The primary trait of the dissertation under review is its complexity in treating spatial, social, economic, cultural and environmental phenomena, taking into consideration their mutual relations and impact on Palmyra's urban structure.

Skilful interpretation of the links between identified urban factors and the historical backdrop within which the researched phenomena occur is noteworthy. In the reviewer's opinion, the work scope and methodology have been correctly chosen for the research subject.

The work excellently describes transformations to Palmyra's urban structure, the dissonance between the domain of destruction and the yearning for stability and growth. That belief in common sense instead of blind (deterministic) fate is evident in every chapter of the work.

The applied research methods creatively make use of Polish urbanism school achievements in the presented concept for rebuilding Palmyra. The author suggested a logical methodological system:

- initial problem analysis,
- identification of research objectives in an outlined historical backdrop,
- sequential problem analysis using a diagrammatic strategy,
- implementation of that strategy in the process of creating a concept for Palmyra's reconstruction,
- summary of research outcomes, research by design.



The work presents many research lines not undertaken thus far. New research results add to the existing knowledge within the scope of Palmyra's urban transformations.

The following are noteworthy:

- creative development of the urban factors theory formulated by Tadeusz Tołwiński,
- observational ability encapsulated in an apt selection of source materials,
- logical interpretation of research results, in accordance with the selected criteria; identification of the transformation process (dynamics) and depiction of phenomena which exhibit potential for further development are particularly valuable,
- very well selected illustrations which document the research.

The research results add to the existing knowledge within the scope of urban transformations. The work constitutes source material for further publications ordering the state of knowledge pertaining to the genesis of the rise and fall of cities.

The author, in an interesting manner, refers to the achievements of Polish architects and urbanists working in Syria as well as archaeologists conducting research on the heritage of that country.

The dissertation features nine core chapters. In chapter 1 the author included a justification for taking this subject on, the work objectives, a description of the research problem, restrictions to the research field, work theses and the originality of the problem against the backdrop of research to date.

Chapter 2 is on Syria, its history, cultural heritage, economy, demographics and nature.

In chapter 3 the author discusses Palmyra's significance for Syrian history, economy, tradition and culture.

Chapters 4-6 are dedicated to an analysis of urban factors which had positive and negative impacts on the city's urban structure transformations in Palmyra's history.

Chapter 8 constitutes a synthesis of the conducted research and at the same time depicts a vision for Palmyra's reconstruction in the context of regional spatial and economic activation.

Chapter 9, "Word at the End", is an emotionally tinted summary expressing the belief and hope that the city will be reconstructed.

Scientific reasoning is supported by critical analysis of literature, with the bibliography showing 58 items including 14 in Arabic and 23 references to websites. The extensive and excellently chosen graphical materials contain 86 illustrations documenting the conducted research. The work contains 5 tables.

It should be emphasised that the proposed original research method as well as the obtained results are of a universal dimension and may successfully be applied to other cities.

The research results are presented in a clear and legible manner. Linguistically the dissertation is sound, the scientific methodology and the manner in which the results are presented are noteworthy.

## CONCLUSION

The presented research exhibits:

- methodological cohesion,
- creative association of traditions and innovation in the model for rebuilding Palmyra,
- innovative take on urban factors formulated by Tolwiński,
- original implementation for diagrammatic depictions in urbanistic work,
- original use of the fourth dimension (time) to stimulate creative imagination in urban design.

My assessment of the dissertation is very positive for the following reasons:

1. The author exhibited extensive theoretical knowledge and practical skills in the architecture and urbanism scientific disciplines as well as considerable familiarity with the problem set associated with the doctoral dissertation subject.
2. The author independently formulated and then solved the defined research problem in an original manner drawing accurate conclusions.
3. The author has mastered research work methods, exhibited creative invention and creativity.

The paper entitled "Palmyra. The Rise and Fall of the City" satisfies the conditions set forth for doctoral dissertations, is worthy of a distinction and its author may be admitted to a public defence thereof.

