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Tectonic in Architecture in Capability of Capturing Epoch

Naniek Widayati Priyomarsono, R Surya, D S Budiman

Department of Architecture, Universitas Tarumanagara, Jakarta, Indonesia

naniekw@ft.untar.ac.id

Abstract. Globalization excludes territory, carries out universal spirit as more emphasizing univalence rather than multivalence. In architectural context, universal perspective is just at doubt in its capacity to respond epoch challenge. Modernity proliferating into diversity of life aspects causes architecture attain to hegemonic status not rich of colours, texture, ornament, and not rationalistic. Tectonic aspect in architecture is expected to be able to uplift locality dignity rooted from existing culture, nature, and material resource. This research is done with a qualitative, deductive and verificative method with study object of architectural work already available. Field observation result refers to a theory setup deductively from journal collections studies; expert is opinion so that it results in tectonic variable formulation in architecture. Research object selected is architectural work to explore tectonic architecture, known adept at exploring natural potency and local cultural riches as well as material usage of local building. A result obtained is a comprehension on tectonic in architecture and all aspects constituting it. A comprehension gained is tested to architectural work with perspective up to their implementation in the field. Finally, it concludes that tectonic aspect in architecture can be a creation alternative of locality architecture in Indonesia.

1. Introduction

To make it architectural, meaning that to speak language with space and *gatra*, with line and plane, with a material and lace atmosphere, it is natural that individual is supposed to be architect in culture, with the inner feeling (*nurani*). To make it architectural means to make it cultural, thus it is suitable that Mangunwijaya known as a cultural with the inner feeling and responsibility to yield architectural work not only having ‘utility’ but also having an ‘image’. Architecture is not only a problem of concept, philosophy, and macro level thinking but must be also supported by sufficient knowledge via micro level namely tectonic [1].

To make it architecture for Mangunwijaya is to do activities, including as craftsmen. Mastery on making-process from mastery of characteristic and trait of building material. Each architectural work must be honest in expressing a meaning as set forth in it. Basic principle of Mangunwijaya's work is: 1) Simplicity in forms of; 2) To build as low as possible; 3) Building material is as light as possible mainly on the the above section; 4) building separation with complex function to be an independent building, its form is not plural. Thus, his work becomes more meaningful since there is story on the plan and story on the process of embodiment [1].

Prijotomo in his writing as introduction maker of Pangarsa's book entitled, “Complexity of *prasaja*, in architecture of humankind” tells that; each architecture is complexity including many aspect and activities done by an architect in his or her work. Based on thinking and that discussion it is clear that tectonic is main aspect in architectural work produced, mainly on the encounter (connection) from



material in accordance with its character with full aesthetic, it is expected to be able to capture epoch development [2].

2. Material and Methods

Data study is based on field survey result and some writing of books, journal media, social communication media (internet), as well as interview result with user and guard in three study objects namely; 1). Church of Santa Maria Assumpta in Klaten; 2). Residence of Arief Budiman in Salatiga, both are works of Romo Mangunwijay; 3). Gallery of Cemeti as work of Eko Prawoto, explained consecutively to start from:

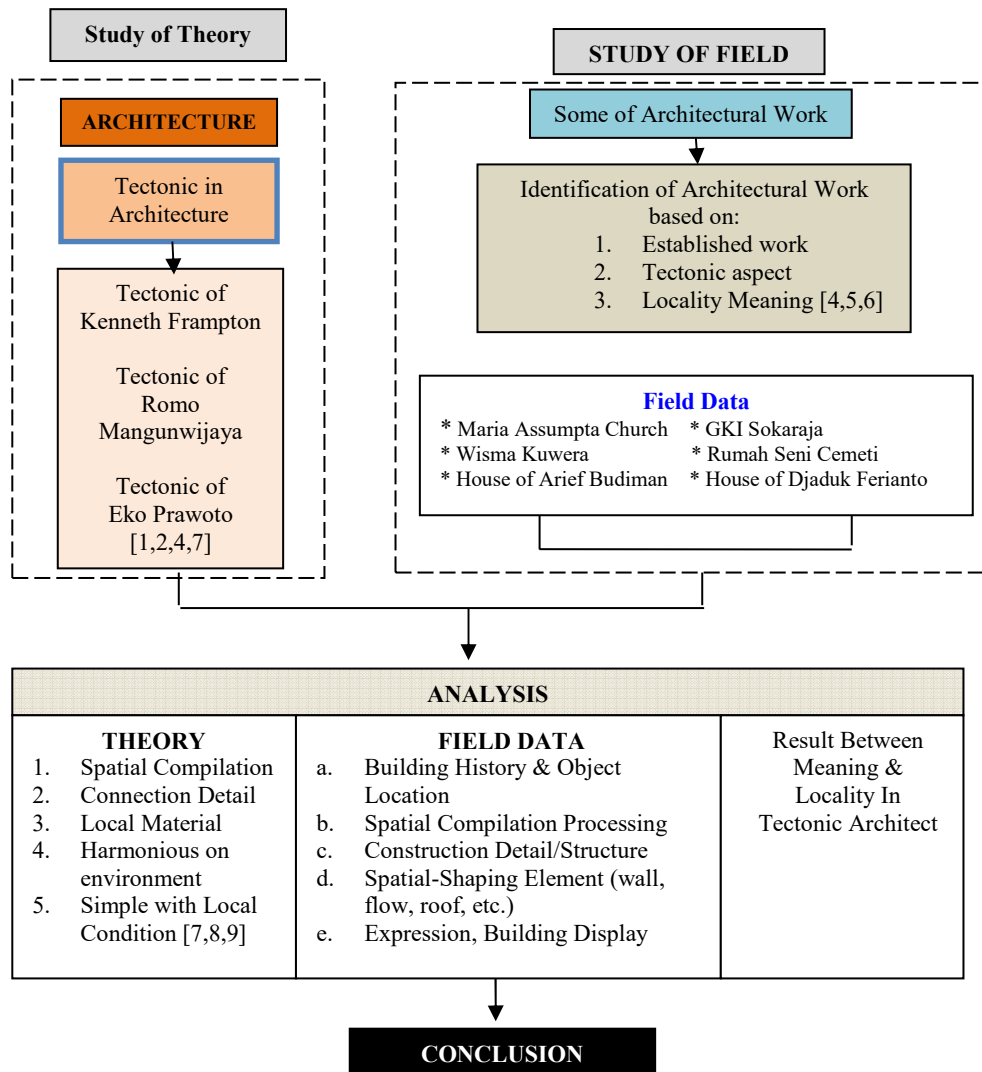
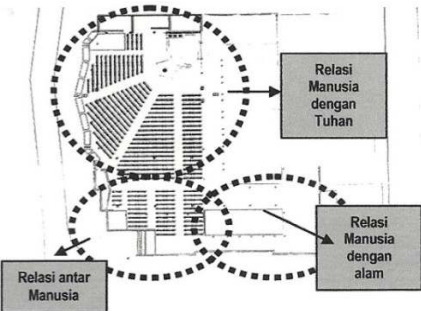

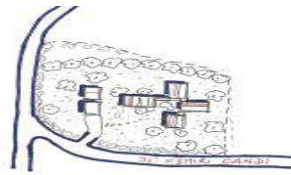


Figure 1. Research Interpretation Framework

3. Results and Discussion

Table 1. Research Perspective Diagram

S	U	B	J	E	C	T	S	T	U	D	O	B	J	E	C	T	A	N	A	L	Y	S	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T	R	E	S	U	L	T
<p>Church of Maria Assumta Klaten, Architect of YB Mangunwijaya Sketch shape, (Spatial Compilation)</p>		<p>(Replaced diagram in English)</p>	<p>Javanese house concept has 3 groups of composed space: <i>Dalem</i> (worship/faith foundation) as link of human being with God. <i>Pendapa</i> (people's space) as link of human with human. <i>Siti Hinggil</i> (garden) as link of human with nature, Linear spatial organization continues from entry door to room of <i>siti hinggil</i>, <i>pendapa</i>, <i>dalem</i> ends into <i>panti imam</i> (<i>altar</i>)</p>	<p>Cultural value and local tradition in affiliation with religious value → values of people's life (Javanese) providing tectonic meaning in architecture on spatial context</p>																																																																																																																																																																																																																		
<p>Utilization of Local material sources, natural, cultural and social I environment in the vicinity locally</p>		<p>Material used is all from local environment by utilizing craftsmen's creation and craftsmen therefore cultural element and tradition as well as social of people are most Javanese in affiliation jointly to yield new creation full with aesthetics and symbol (meaning)</p>	<p>All building materials include furniture are formal local material left behind to process into new creation uniquely and typically. All of craftsmanship creation including hanging-light except bulb is from industry</p>																																																																																																																																																																																																																			
<p>Residence of Arif Budiman in Salatiga Architect of YB. Mangunwijaya</p>	<p>Sketch Space (Spatial Compilation)</p>	<p>Has an arrangement of spaces in groups with four building masses with bridges and stairs</p>	<p>Presence of building follows field contour, which is quite steep, This building with open concept toward, Environment with moist tropical climate</p>																																																																																																																																																																																																																			



Construction Detail, structure and other elements

Building setup with concrete frame structure & wood with roof of *pelana*

Having many structure detail and construction showed as like that. Beautiful, stiff and Strong in expression emerging from connection produced. Honestly shows up from each elements



Building display expression

Simple and not salient

The shape of the building is saddle-roofed with a two-storey system which is basically the floor open produces the impression of the building, floating and united with the lush trees creating a truly beautiful tropical atmosphere.

Dynamic mass is formed on a full contoured lush trees create a comfortable, comfortable home atmosphere, especially from the physical aspects of the building



Process of building architectural creation innovative, Creative, and aestthics.

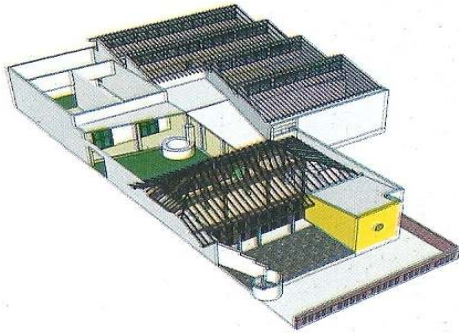
By bringing in workmen directly in the field without drawing a blueprint. Works that are rich with creativity and creation of material processing and the value of beauty created therefore make this building very inviting attention to be observed and studied its beauty and strength

Development process is done by providing local material processed instantly in the field. All construction and setting of each building are employed by creation of craftsmanship and craftsmen good up to now



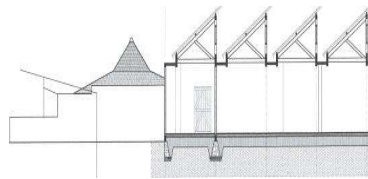
Art House of Cemeti,
Architect by Eko Prawoto

Sketch Space (Spatial Compilation)



It has a composition of spaces with traditional nuances that combine with modern nuances. The face as space receiver of *joglo* building with *limasan* roof. The showroom at the back has a shape according to its modern industrialist function.

Tectonic is produced since blend of traditional quality and modern quality, Coupled contrast and harmony



Construction Detail, Structure, and other elements



Structure detail and building construction are displayed or exposed to show as the way as it is and reasonable from system. Based on each/individual material character. Wood and bamboo are in a receiving building, mirror, and concrete on building of display

Material treated as the way as it is in coincidence with utilization value and also has beneficial value to have esthetics, Effort of respecting tradition and culture of Yogyakarta is displayed by presenting *joglo* coupled with modernity

Utilization of local material source, natural environment, culture, local, and social



Material utilizes local material rooted from environment of Yogya city. All materials uses wood substance bamboo, coal, and glass

The aspect of locality was felt when entering the Cemeti Art House. All appear openly (shown) to become architectural works that are rich with aesthetic values and meaning in accordance with their roles

Building display expression simple and not salient

Pyramid-formed roof becomes a receiving which displays from Panjaitan street, In illustration of its

The expression of Cemeti Art House as an Art Gallery appears simple unlike most art



existence in Yogyakarta city (culture) but it displays with a building character in city

galleries, but behind the simplicity, there are local characteristics and typical identity of Javanese culture tradition strong in the midst of modernity dynamics of Yogyakarta society

4. Conclusion

Result of discussion on tectonic in architecture based on theoretical study investigated on observation object in the field shows that tectonic in architecture always presents meaning and a strong loyalty aspect on design and work of architecture. The latter is realized and spatial compilation processing creation (sketch organization), structural design and construction on building with material used in accordance with trait and its characteristic. Honesty realized through reasonableness displays each architectural element as the way as it is so that it has its beauty by itself. All is seen on building display as expressed started from designing process to establishing into an architectural work since there is living values in it.

Meaning and locality aspect in tectonic architect can be lifted as characteristic and identity of each architect's works since architect potency can be identified and characterized design notions. In relation to technology advance and modernization flows thus they can be creative capital to yield architectural work full of meaning with locality aspect characterized and identified in accordance with cultural values and nation tradition supposed to conserve and developed.

5. References

- [1] Mangunwijaya Y B 2009 *Introduction to Architectural Form Cultural Science. Introduction of Philosophies Branches as well as Practical Samples* (Jakarta: PT Gramedia Putaka Utama)
- [2] Pangarsa G W 2008 *Architecture for Humanism, Teropong Visual Culture for Eko Prawoto Design* (Surabaya: PT. Wastu Lanas Grafika)
- [3] Bharoto A M 2009 *4th International Symposium of Nusantara Urban Research Institute (NURI) "Change + Heritage in Architecture + Urban Development"* Semarang: Department of Architecture of faculty of Engineering of University of Diponegoro
- [4] Frampton K 1995 *Studies in Tectonic Culture, The Poetics of Construction in nineteenth and twentieth Century Architecture* (Cambridge Massachusetts: MIT Press)
- [5] Juniwati A and Widigdo C W 2003 *Dimension of architectural Technique* **31** 120-123
- [6] Pangarsa G W 2006 *Red and White Architecture Nusantara* (Yogyakarta: Andi Offset)
- [7] Octavia L 2013 Thesis of Program Magister of Expertise of Theory, History, and Architectural Criticism Surabaya: Department of Architecture of Faculty of Architecture and Civilian Engineering and Planning of Institute of Teknologi Sepuluh November Surabaya
- [8] Pratikno P 2013 *An Architect Who Re-reviews Architecture of Y.B. Mangunwijaya* (Yogyakarta: Andi Publisher)
- [9] Rumah Seni Cemeti 1999 *The Tectonic Architecture of Y.B. Mangunwijaya* Jakarta: The Japan Foundation.