

# IN SEARCH OF RULES FOR CREATIVE DESIGN PROCESS

*Kristanti Dewi Paramita*

*Department of Architecture  
Universitas Indonesia  
Indonesia*

*ARSNET, 2024, Vol. 4, No. 1, 1-7  
DOI: 10.7454/arsnet.v4i1.109  
ISSN 2777-0710 (online)  
ISSN 2777-0702 (print)*

---

Correspondence Address: Kristanti Dewi Paramita, Department of Architecture, Faculty of Engineering, Universitas Indonesia, Kampus UI, Depok 16424, Indonesia. Email: [kristanti.dewi@ui.ac.id](mailto:kristanti.dewi@ui.ac.id)

2

The articles in this edition of ARSNET investigate the existence, production, and application of rules as the basis of the design process. Architecture as a discipline is "a system defined by a set of focused interactions between objects, methods, beliefs, rules, definitions, and tools" (Plowright, 2014, p. 15). In various discourses of architecture, it can be argued that the notion of rules has been variably applied using different terms interchangeably, either as patterns (Alexander et al., 1977), principles or orders and language (Forty, 2004), as well as frameworks (Plowright, 2014). The making of architecture relied on specific sets of rules, as "regulating principles which govern actions or practices" (Ostwald, 2023, p. 228). Without rules, there is "no ability to have meaning and understanding" (Plowright, 2014, p. 34).

The varied terms of rules have slightly different meanings in their application to the design process and they evolve due to different needs and objectives of the society. Some of these objectives can be seen in the need to apply some ordering principles to attain a sense of beauty (Forty, 2004). The rules apply through the arrangements of forms and shapes, creating relationships driven by measurements between them (Corbusier, 2014). The idea of ordering principles to attain beauty focuses on the relationship between formal parts and whole, informed by fields of biology and mathematics, applying to cases with various scales; from objects to buildings to cities (Forty, 2004). The existence of such objectives of rules is rampant from the period of classic architecture to modernism, of which the design aims to create tangible guidelines to follow, termed as the "regulating lines" in which through such lines the design can be thoroughly satisfied (Corbusier, 2014, p. 18).

Another significant objective of rules in design is to represent the social system, such as rank and hierarchies (Forty, 2004). In this objective, rules of design bring meaning by embedding them into existing social and cultural systems, where the appropriateness of space is governed by the respect of such rules (Rapoport, 1969). The existence of rules as part of the cultural system often creates specific placements and orientations of architectural elements, which provide deep meaning to its inhabitants (Arfianti et al., 2022). In this objective, rules exist as the manifestation of society's everyday life in doing their activities, which translates into systems of design. Violation or disruption to the rules in such cultural-driven rules is believed to bring consequences to the overall living system.

With technological advancement, the idea of rules has expanded. The existence of rules as language translates into the way instruction can be given to computers, as a set of algorithmic steps or codes (Ostwald, 2023; Reas & McWilliams, 2010). The algorithmic-based design utilises computational tools to generate forms and structures using a set of rules in a structured and systematic way (Sawatmongkhonkul et al., 2024). However, different from previous discussions, the idea of a rule in algorithmic design thinking does not necessarily exist as an imposed rule, with specific design outcomes. Rather, the ruleset itself can be self-adapted and the outcomes can be open-ended and bottom-up depending on the design intention of the users (Vazquez, 2023). This change demonstrates a shift from applying rules as a set of accepted truths and rightness, into something that is contingent on forces around it (Till, 2013).

The adherence to rules in architecture has led to various critiques. The presence of rules has been thought to reduce originality and creativity. "Social or architectural reality, if viewed as a set of determinate rules and procedures, tends to shut down the imagination, because the apparent certainty leaves no gaps for vision to open up." (Till, 2013, p. 192). Other critiques highlight how the existence of rules leads to architecture being deterministic and authoritarian, while the rules themselves are inherently reductive and complacent in oversimplifying the complexity of life (Bhatt, 2010). Some critiques highlight that rules are often incapable of addressing the more intangible discussion of architecture, such as matter, flows, and even the space itself (Forty, 2004; Hillier & Hanson, 1989).

Other reviews towards the idea of rules of architecture annotate that rules do not work in more complex worlds when stakeholders of design do not share similar social values or means of communication, when the overall forms are inherently non-hierarchical or more dispersed instead of consisting of a bounded whole, and so on (Hillier & Hanson, 1989; Till, 2013). In addition, with the complexity of digital design learning, the difficulty lies in combining digital skills acquisition and algorithmic design thinking, (Vazquez, 2023). Such difficulty led the learning process to rely upon students "following standard blindly followed scripts and procedures" (Abdelmohsen & Massoud, 2021, p. 459). There is a straight contradiction between design freedom and the inflexibility of the algorithm itself (Burry, 2011), making the learning process of rule-based computational skills rather gruesome.

The above critiques towards the existence and relevance of rules in the design process and pedagogy arguably demonstrate the gap of knowledge, providing the opportunity where the understanding and application of rules can be revisited within this edition. This edition of ARSNET explores various discussions of rules, spanning between the discussion of rules in the context of adaptive reuse and placemaking, the connection between rules and context, as well as the understanding and development of rules in design pedagogy and practice. The first article by Verarisa Anastasia Ujung and Alya Amany develops a mechanism

of agglutination in creating the 'sticky' interior as part of a studio design project. The project uses a form of adaptive reuse approach which develops multiple spatial elements that merge with existing elements, combining the old and new, and the material and the immaterial. The study experimented with fungus in tempeh to investigate the rules of layered connection between contaminants that create layers of stickiness that activate the interior. Such discussion expands understanding of rules as a way of creating an interweave of relation with the surrounding, instead of existing as a standalone object.

The second article in this edition by Amanda Magdareta Rompas and Agus S. Ekomadyo also explores the process of building adaptation, using a more participatory, creative placemaking process. Using a case study of The Hallway Space in Bandung, this project outlines strategies of creative placemaking that enable the activation of space as part of urban renewal projects, transforming an otherwise abandoned public market into a vibrant youth space. Creative placemaking shows the way design manifests in specific rules of engagement with the community. Such needs of engagement led to spatial strategies such as multi-purpose spatial arrangements for creative uses, open-plan spaces for collaborative activities, and utilisation of architectural elements as the platform of art. The project outlines the role of rules as a way of building connections with various stakeholders, to build both the field of creativity for users and also the cultural capital that actively drives the space.

The third article by Bramasta Putra Redyantanu and Rony Gunawan Sunaryo explores the notion of modularity as design rules that allow contextual design thinking. Using reflection towards lodge project design, the study aims to discuss modularity not only as form-making rules that generate repetition of modules. This study offers four reflective propositions that demonstrate how modularity generates deeper consideration of efficient spatial programs, enables parallel processes between operation and construction, creates a connection between spatial scales, and establishes inside-outside relations with the surrounding environment. In doing so, the study unpacks the meaning and role of modularity as the basis of consideration in the social, spatial, structural, and economic fragments of a design process.

The next two articles discuss rules in the context of algorithmic and parametric-driven design. The fourth article by Zafira Rahmatul Ummah and Paramita Atmodiwirjo explores the process of learning and creating rules as part of algorithmic design thinking in first-year foundational design studios. Using a colour composing study, this article discusses the application of algorithmic design thinking through the process of pattern identification, rulemaking, colour composing, and overall reflection. With technological advancement, introduction to the logic of algorithmic rules becomes particularly relevant to be addressed early in the design pedagogy. The study allows such thinking to be exercised creatively regardless of the student's

computational capabilities, allowing them to later develop a more independent inquiry in the use of such devices.

The fifth article by Dany Perwita Sari explores simulation parameters for optimum openings in a tropical context. This study provides a comparison analysis of three different simulation tools, consisting of Dynamic Daylighting, VELUX Daylight Visualizer, and Rhinoceros Grasshopper, measuring their performance in daylight visualisation. Examining the input and output analysis governed by parametric rules across different daylight simulation tools demonstrates the best possible window design strategy for the tropical context. The study highlights how the application of rules and parameters in such a simulation process enables consideration of various design needs at once, which can be conducted in a more precise and detailed way.

This edition of ARSNET searches for an alternative understanding of the role and manifestation of rules in the creative design process. Through such inquiry, the collection of articles in this issue highlights a more fluid and wide-ranging existence of rules in design which can be less restrictive and more open. The idea of rules may now be applied for more varied objectives other than to attain beauty and conserve social hierarchies, but also to build relations with context and enable engagement with society, in addition to developing a more logical and precise design thinking. These varied objectives of rules create a shift in the creative design process itself, expanding its intention beyond simply following a pertinent form of constraints, and instead becoming a responsive and considerate operation of practices.

## References

- Abdelmohsen, S., & Massoud, P. (2021). A material-based computation framework for parametric design education. *Open House International*, 46(3), 459–475. <https://doi.org/10.1108/OHI-02-2021-0043>
- Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). *A pattern language: Towns, buildings, construction*. Oxford University Press.
- Arfianti, A., Rachmawati, M., & Setijanti, P. (2022). Primbon: Representation of Kraton Yogyakarta. *Interiority*, 5(1), 115–132. <https://doi.org/10.7454/in.v5i1.177>
- Bhatt, R. (2010). Christopher Alexander's pattern language: An alternative exploration of space-making practices. *The Journal of Architecture*, 15(6), 711–729. <https://doi.org/10.1080/13602365.2011.533537>
- Burry, M. (2011). *Scripting cultures: Architectural design and programming*. John Wiley & Sons.
- Corbusier, L. (2014). *Towards a new architecture*. Martino Fine Books.
- Forty, A. (2004). *Words and buildings: A vocabulary of modern architecture*. Thames & Hudson.
- Hillier, B., & Hanson, J. (1989). *The social logic of space*. Cambridge University Press.
- Ostwald, M. J. (2023). The regular and the rule in architecture. *Nexus Network Journal*, 25(2), 227–230. <https://doi.org/10.1007/s00004-023-00738-9>
- Plowright, P. D. (2014). *Revealing architectural design: Methods, frameworks and tools*. Routledge. <https://doi.org/10.4324/9781315852454>
- Rapoport, A. (1969). *House form and culture*. Prentice-Hall.
- Reas, C., & McWilliams, C. (2010). *Form+code in design, art, and architecture (design briefs)*. Princeton Architectural Press.

Sawatmongkhonkul, K., Joneurairatana, E., & Sirivesmas, V. (2024). Exploring parametric concepts and principles for furniture and interior design. *Interiority*, 7(1), 101-120. <https://doi.org/10.7454/in.v7i1.311>

Till, J. (2013). *Architecture depends*. MIT Press.

Vazquez, E. (2023). Teaching parametric design: Fostering algorithmic thinking through incomplete recipes. *Open House International*. <https://doi.org/10.1108/OHI-06-2023-0135>

