

A Machine Learning-Oriented Survey on Tiny Machine Learning

Original

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Urban Form: Explorations on Urban
Coding within Urban Morphology
Agency

CITY IN TIME. TOOLS TO HANDLE URBAN PAST AND URBAN FUTURE

Abstract

Aiming at exploring the involvement of Urban Coding among the main agents of Urban Morphology formation, the PhD research brings together two tools - urban codes and typo-morphological analysis - that handle the city in their individual ways; in doing so, they set different values onto the past and the future of a city, therefore establishing certain prior connections between the two portions of time.

The present paper starts from the general assumption that urban morphology, as a multidisciplinary field where history, geography, anthropology, sociology, art history, engineering, all operate analyses on the form of the cities, and bring with them their views of time, all expressed more or less explicitly through their singular tools. The observation of the two means consisted of the reading of publications focused on their origin, development, debate, which allow to draw conclusions on their ways of considering time.

These early considerations on the view of time for this work of thesis, helped raise useful questions on the nature of the instruments intended to be used - codes and typologies - and to understand their potential, limits, and relations.

Introduction

When confronted with the question of how past and future are connected in the present PhD research, not being focused on specific case studies yet, the reflection led back to the central object of observation, the city itself, and to the two instruments that manage it and that characterize this research in its assumptions: urban codes and typo-morphological analysis. Taking a position towards the past - future relation, necessarily means going through the possible positions that the instruments of such research allow, and therefore that they take or took in the past. For this reason, readings on the history and debate of urban codes, are at the base of the present text.

Urban codes and time

Codes are hard to take into one precise definition, as they vary in form, purpose, and contents. For example, when observing the Vastu Purusha Mandala (fig. 1), a traditional Indian conceptual grid for design, and the Diagrams for the Law of the Indies (fig. 2), one could not even say that they serve the same purpose of regulating forms that would eventually be built and compose

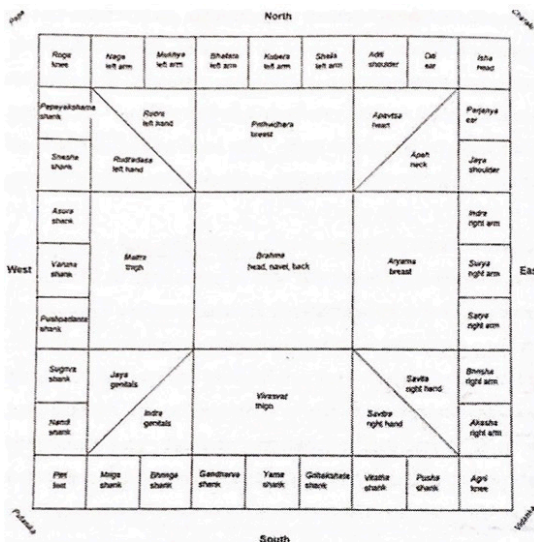


Figure 1. Vastu Purusha Mandala, conceptual grid for design. Source: Sachdev, in Marshall 2011

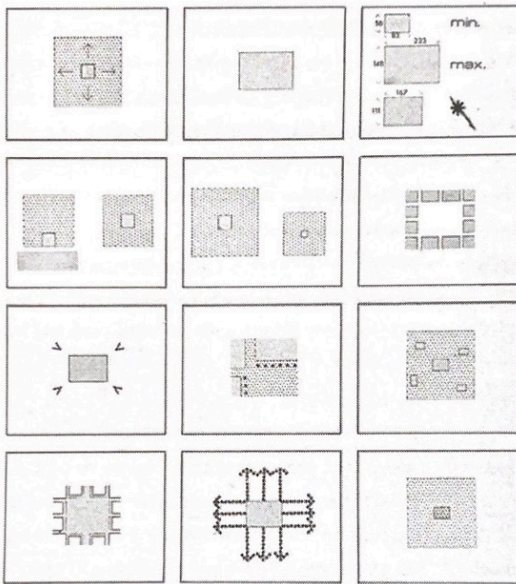


Figure 2.
Diagram of the Laws of
the Indies.
Source: *Lejeune, in Mar-*
shall 2011

cities; within urban codes fall building codes, design codes, development codes, safety codes, hygienic codes, which are all norms that generally take care of the urban realm serving its different needs (Marshall, 2011).

If one considers the wider explanation of urban codes, as the result of agreements taken by people onto the physical outcome of the city, for the need to occupy a piece of land, the history of codes on a global scale trace back to 2000 BC as Ben-Joseph shows in his timeline.

In a more European-centered perspective, Decandia (2006) finds the origin of the deliberate human action on land in the *nomos*, an archaic Greek concept and system that directly related the form of land to the exercise of its occupation by a subject. In this system an overall conception of the settlement's form was not present, it just consisted of placing the different parts of occupied land, close to each other in a not-so-thoughtful way. This behavior presented a profound connection of the *oikos* (house and family) to the land it occupied, rooting it not only in space but in time too. In fact, archaic Greeks believed in a cosmic structure that placed the Earth in between the underground Hades, home to the *oikos*' ancestors, and the Gods' realm above. Therefore, being present in the world and occupying it meant being the connection of the three dimensions, it meant being the

representative of your lineage in the present, and in charge of preservation for the future.

Between the VI and IV century BC this idea was replaced by Anaximander whose view of the Earth was one of realm independent and free from underground roots, therefore from the past, in which Cleisthenes re-organized Athens and its society following the political intent of providing people with a place where democracy could be exercised. He proposed a system where the family tribes were reorganized not following the blood ties, and inside areas limited by new borders (Decandia, 2006). This represents a transition from a nomos - based model to a norm - based model of settlement, one where humans are deprived of their animality, and respond to logical operations; also, this turn is significant of a rising interest towards the idea of collectivity, parallel and balanced to the interest of the individuals.

These opposites (nomos vs norms, or bottom-up vs top-down) are the two extremes among which the nature of urban regulations have swung back and forth in history; like in the later early-middle ages, when several settlements saw their local-based trade economy become stronger than central power's landowning economy, people developed independent local-based regulations whose norms derived from habits that were culturally accepted and shared within the group (Larkham and Conzen; Decandia). This individuality of settlements' formation and regulation was replaced by a top-down urban rationale with the introduction of the perspective as a man-made representation tool for the world, and successively re-affirmed by the rise of the Modern State which did not look at territories as a multiplicity of individualities, but a land onto which impose an overall ordering system.

Although the nomos and norm systems, models of the two approaches to city formation, are rooted in two opposite conceptions of the past of territory, of humans; the regulations they produce share the same attitude towards the future, as something inevitable and for which a position must be taken in the present.

Typo-morphology and time

If Urban Codes hold within them a prescriptive attitude towards reality, geared to operate in the present for the future, they may find their opposites in the typo-morphological instruments that handle the city. Widely diffused in the late-modern times through the works of Giovannoni, Muratori, Caniggia, the typo-morphological studies keep a specific position towards the history of a city, as a process which through building types affirms a past character of the city in the present.

Divergence among the field can be found in the positions expressed on the role of building type: Muratori, and his successors, insisted on the conception of the city as a living organism, and viewed building types as the “unstable and unpredictable outcomes” of the continuously developing city; opposing to the Rossi’s concept that privileges the idea of type as the set of transmissible rules resulting from the “intellectual and rational competence of the designer” (Larkham and Conzen, 2014); to Rossi the type is itself the essence of architecture, that through changes allows different solutions - models - but maintains its typological nature (Rossi, 1966). A similar view to this comes from Moneo, who describes type as a theoretical framework useful to describe architecture, counter-parted by its tangible form: the prototype (Moneo, 1978).

Apart from the divergent opinions and views on type, which each establishes a different dialectic between past, present, and possible futures through its use, the typo-morphological approach is provided to urban morphology studies as a lens through which observe the existing city, mainly through its most powerful tool - the typological map - that evidently positions the field as very much focused on the present and past form of the city. In fact, a typological map, defined as the plan view of the ground floors of a specific settlement at a specific time, is by nature a descriptive tool for the city that has already been, or currently is (fig. 3). The map provides overviews on the condition of the city, on its building types, the relationships they establish with each other, relations of public and private parts of the city, the quality of ground floor’s living in a place. In displaying on one single level the stratification of the city, it

cancels the portions of time and their linear succession: it offers in the present an image of the city available to interpretations, comments, analysis, descriptions, of what is the nature of the past that influenced the city inherited in the present.



Figure 3.
Rilievo murario al centro storico, Roma.
Muratori S., 1960
Fonte: shorturl.at/dkDNY

Conclusions

Urban codes and typo-morphology are two diverse tools that allow scholars and designers to handle the city, either describing it, reviewing it, or pre-viewing it. The usefulness for matters regarding the urban realm is shared among the two tools; but in their assumptions, objectives, forms, and contents, they diverge towards two different portions of time: past and future.

Codes, by their legislative nature, exist as a response to the need of organizations for the future, prescribing norms, and either allowing or prohibiting certain behaviors; they come as textual documents, not necessarily accompanied by images. While typo-morphological analysis roots its functioning and relevance in the observation of the past, describing existing and old behaviors; it bases its expression in the typological map, a solely visual tool at the same time architectural and urban. In this prescriptive - descriptive dichotomy lie the different positions the tools assume for the city in time: one predicts the city, the other records it.

It would be wrong to state that either the urban codes or the typo-morphological analysis escape from the all-encompassing

dimension that time is, by excluding one of its portions, to dive exclusively in its opposite; it would rather be more appropriate saying that they prioritize differently past and future. Codes are projected in the future but, depending on where the oscillation mentioned above is, the past is consequently considered; in the same way, typo-morphological observations are applied onto the past forms, but keeping in mind the eventual implications for the future.

The questions posed in the paper on the relation between these instruments and time, between past and future in the research, inevitably brought questions on the limits, potential, and comparisons between urban codes and building types, necessary for further exploration in the next research phases.

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