# READING ASSIGNMENT 01

I believe that both "The logic of architecture" and "Classical and Non-Classical Computation" made me understand that, in order to 'produce' architecture -either simple or complex-, we could plan, compute and work out geometry by systematizing and organizing it through criteria and parameters in order to implement it. As Aristotle classified everything in the world according to classes, both essays adopt a strict but broad taxonomy of possible solutions to geometrical problems which are either posed initially by us or emerge (hence "emergent problems") while we 'anneal' the 'shape' we imagine and want to realise.

On the one hand, "The logic of architecture" gave me an insight of how to integrate the process of configuring an architectural set into a logic or a set of strict rules (for example Durand's abstract logic and Palladio's way of creating layouts). It smartly parallelises tree diagrams for English linguistic and grammar analysis with the procedure of enumerating possible solution for space organization in specific architectural concepts – the palladian villa layouts and their variations are such an instance. Also, as grammar needs to fit in a sort of linguistic environment, in such a way architecture needs to compromise with the constraints of its construction method or its style – otherwise it is considered "incorrect practice" instead of "correct" (A. Pugin). Moreover, architectural design has to be explicit hence mathematised and algebraized with grids, reference points and by utilizing 'tools of logic' such as addition (e.g. LeCorbusier's spiral museum), also abstraction (e.g. Durand's precis as a grammar), recursion (e.g. half hexagon sequence of subgoals) or division (e.g. Palladian language). In other words, the previous 'tools' are the four basic mathematical 'operations' of architecture. However geometrical hence architectural elements should be interdependently constructed and this interdependence should be determined by a set of rules each of which is activated according to the geometrical context (e.g.8.40 rules for interior wall realignment). Anyways, there is a step-by-step way for identifying, classifying and then confronting relative geometrical problems, which should not necessarily be solved: new emergent problems or even changing the rules could extend or modify accordingly your initial problem. As implied in the "Logic of architecture", architecture may be not just a dynamic and flexible procedure but also exploration and investigation of ideas, some of which could be even extra and 'put aside' for other uses (e.g. finding varieties of Palladian villa layouts). Actually, it could be considered as an effort to experiment and determine the strictness of rules to create a design and then modify it in such a way that it is original, gives a variety of solutions and needs least time. All the logic described before and that of the next paragraph could of course be implemented in computer science.

On the other hand, "Classical and non-classical computation" taught me an extraordinary distinguishment of architectural computation of representation, as for its depiction and the procedure of its creation. It does not have to do necessarily with complexity. The former is considered 'classical' when it could be defined unambiguously, it is basic, primitive (but not

necessarily simple – e.g. "Game of Life", the emergent fish and face examples), could or should be explained and should give only expected output. Nonetheless, when 'non-classical', it is polysemous, seemingly complex and could be defined in a wide gamut of ways according to the point of view from which it is observed. Because of the latter, non-classical depiction could be associated with the 'emergence' of new geometrical solutions which are except of the expected and put aside as 'additional' (e.g. the emergent fish and face examples, which are derived from an ambiguous depiction done according to unambiguous rules). As for procedure, is defined as 'classical' when the procedure of creating the depiction is determined by strict, explicit, unambiguous and unchangeable rules or set of rules (e.g. the Greek cross example). Nonetheless, when 'non-classical', it is fluid and at first glance obscure but when examining it more carefully it obeys some kind of logic (e.g. the beady ring settlements in France). In general, 'classical' representation or process could be similar to the well-determined structure and strict grammar of Chomsky's linguistically analysed sentences. 'Non-classical' though could not be directly explained or are characterized by no need for explanation but a logic of observing more generalised and intuitively generated rules which could change according to the current situation of the geometry of the design to generate.

I believe that if 'generating' architecture needs creativity, then it needs constraints. "The more constraints one imposes, the more one frees oneself.", Igor Stravinsky once said. If we have come out of a spectacular idea and right after convey it to the world, will they understand us? First of all, will we understand our own idea? If none of these happen then we would be like impressionists who implement their ideas right after they have seen them while dreaming. It would be better to avoid such a way of thinking, because our idea would either be represented inappropriately or not even be recorded but remain in the context of imagination. The two articles teach us how to explore methodically the vast scientific field of architecture by using primitive concepts to 'build' strict geometrical methods and then use the latter to construct whole shape assemblies. If the former are well-determined then we could create various things with few means; and everyone could understand our way of thinking. I also believe that in order to get 'out of the box' it is good to sacrifice what we call 'inflationary freedom' for a more limited but organized worldview of architecture.

I wouldn't dispute that architecture is like language but with shapes instead of words. The latter describes matter while the former materialises that description. The style of each language corresponds to an architectural style. The former is metaphor and theory while the latter is literalism and practice. At first sight, with language we communicate through speech and mental activity while with architecture we communicate through space and physical activity. Letters are bricks, words are walls, foundations are grammatical rules, the relative location of a brick is part of syntax, sentences are rooms. Everything tells something about our mindset– even in language: the way we speak -let it be of fluctuating intensity, nervous, calm, serious- reveals a lot.

At the same time, we can say that a building is governed by "grammatical" rules - but why? We will go with a perpetual abduction: what would the lack of them cause? It would be like

piling one structural unit on top of another without knowing where or defying their structural function. For example, does it make sense to put the foundation on top of a building? That's why we need not just rules but strict rules as in the physics of structural engineering where calculations are aimed at safety and functionality (but also economy - in structural engineering it's about money while in language it's about word economy). And from a social point of view, if we spoke with the wrong grammar, wouldn't society somehow 'override' us? So, a building may look safe and functional but aesthetically inappropriate and therefore 'repels' its users. So 'aesthetic' rules are necessary. Such strictness in rules could perhaps be close to Chomsky's linguistic organization.

I would argue that simple and clear rules can create complex construction. Examples such as 8.34-38 can be modified, generalized, replicated, and partially or completely replaced. No one could probably say that something is done one way. No matter how much we try to categorize the science of architecture hence geometry we will probably never be able to capture its infinite diversity and beauty. The two texts, if not all architects and artificial intelligences, nor even any rule - whether created by humans or by artificial intelligence – still fail to 'complete' architecture. Different philosophies and different ways of thinking can interpret differently even something that can be seen as 'classical' whether it is a representation or the process/calculation of it, such as a graph that can be seen as a side of a square or a diagonal of a square or a 'b' letter that can be seen as an inverted 'd' or 'p' or 'q'.

To summarise, I believe that we try to explain a world orthodoxly, with rules – and that's a good choice. Nevertheless, we might have the illusion that we have 'reached the top', that we have explored every technique, but that is not the case. "The limits of my language mean the limits of my world.", Wittgenstein once said; I would review this for the context of architecture: "The limits of my architectural language mean the limits of my world". In my point of view, the key for finding the new is not just strict rules making our objective more explicit, not just exploring it but reviewing old achievements.