Shape grammar is a way of codifying architectural design so that they can be interpreted by computer software. If we can teach a computer the rules by which an architect design, then why can’t the software design buildings for us.

Simple shape grammars apply rules to an object or shape to produce expected outcomes in a repetitive manner. In this simple form: when a given condition is present, apply the appropriate rule then repeat.

By developing an ordered structure for designs, can we explain how great architects achieved greatness? Or could we even define what makes a design great? Could we determine the greatness of a design even without actually constructing the building?

In classical times, following orders and the rules of scale and proportion of masters like Vitruvius, Serlio, Vignola & Palladio defined what made great architecture. I guess their treatise’s were like a ancient version of shape grammar. When the rules were broken, did this mean the building was less than, or did it mean that new rules needed to be written.

Yes, there is an inherent beauty in some shape grammar algorithms, but are not the oddities of nature also beautiful? If everyone were the same, would we still have bias? Do we not have a more interesting life/culture/history by recognizing and appreciating the differences?

By using shape grammars and computer software, we attempt to make the design process simpler. But is it really making it simpler, or does it give us more choices and combinations that we must consider to reach greatness? There are some things that these systems can do to save us time and additional thought, but how many projects are highly repetitive enough to justify the upfront time needed to train and or learn this systems.

The underlying functionality of these systems are mathematical and logic base, nothing really new for computer software. What would be new is a way of training a computer to recognize the patterns in a given plan and tell us of the underlying principles that it defined it rather than the other way around. Or another approach would be to take an adjacency diagram and randomly generate desirable possibilities from that input.

Nature and evolution provide the greatest and widest array of beauty I know of. Why not try to develop algorithms that mimic natural evolutionary processes. Then simply let those permutations and combinations suggest design possibilities.
Without these types of features, I don’t necessarily see the advantage of shape grammars in design. I think we are just applying old methods of working to new technologies, rather than developing new methods which are impossible without the technology.