

Q6. Do you know of any examples of where shape grammars have been practically used in architecture and design?

A6. I know of a respectable number of architects and designers who have used shape grammars in their creative/professional work, but they try to keep quiet about it, because the very idea of visual calculating is still too dangerous. The risk isn't worth taking, at least publicly, so I'm not going to say anything. It's poor marketing – the romantic rule for genius that it doesn't know its method still holds sway in art and design. Something is truly funny about this, because shape grammars can always do much more. They should be used for what they're good at – to see and do in surprising ways, to go on like this with new perception. Isn't that how visionary genius works with insight and imagination? Visual calculating in shape grammars is meant to answer questions like this. No doubt, a lot remains to do – new questions seem ceaseless – but for me, this is where shape grammars finally pay off and show their awesome power and potential. It's not so much what calculating does for art and design, rather it's what art and design do for calculating. Art and design inform calculating in shape grammars, so that shape grammars can reciprocate in art and design meaningfully and without loss – to see things as in themselves they really are not. This is something of a slogan or mantra for shape grammars. It's worth saying again and again, as a reminder that calculating in shape grammars is visual and not symbolic. My students insist they don't need reminding but anxiously apologize for ambiguity to betray their qualms – steering them past symbolic calculating (visual analogies) to seeing isn't trouble-free. We all fiddle with symbols to calculate, and many of us find this seductive and satisfying – that's what calculating is and how it's always been. I guess it's natural to describe what you're doing as a symbolic process, typically with words, without ever noticing that it really is not. It's easy to match what you've got with a mathematical model or structure that's off-the-shelf, and to stick with it – it can't be wrong, it's proven mathematics. Everyone does it that way. You can talk about an underlying set as a graph or tree, or mappings and isomorphism – some are positive that this is how painting and poetry work, contentless and stripped of ambiguity and imagination. It sounds good to say that you've found an isomorphism; the result is remarkable to behold – you're proud of what you've accomplished, and confident of what your method explains and that nothing is lost. Maybe this kind of structure is implied in the words we use to grasp what we see; maybe it mimics the hierarchical (tree) structure of language itself, to organize seeing in terms of what we know how to say. Maybe it's simply all we can think up. The critic especially

must guard against this alluring trap and its empty effects – it's a convenience to avoid. Is it any wonder that he/she succeeds only as an artist? But this isn't so easy. Overarching structure is stressed in everything we're taught – everyone agrees that it's perfect, tried and true. There's no reason to tamper with any of it. I've already said as much for new perception – the reason for school is to limit your options as you memorize units and count, and to recite what's expected on tests and on the job. It's hard if not impossible to forsake everything you've learned and to break old habits, to abandon shared standards and the safety and comfort of symbols for hopelessly ambiguous shapes – to ignore rote divisions and specialized parts, to see on your own not tethered to visual analogies, to trust your eye no matter where it goes with the end never in sight. It takes true grit to follow through, every time to a fresh start. Insight and imagination may seem fleeting – in fact, they last no longer than the embed-fuse cycle in shape grammars – but they aren't infrequent; they're present all the time in calculating, in every rule that's tried. It's the risk you run to go on, easy prey to something new. It's never safe – surprises abound. In art and design, and for the critic as artist, too, it's the one risk that's a risk not taking.

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