

The Aesthetics of Variation

An interview with Lars Spuybroek by Arjen Mulder

We are sitting in Lars Spuybroek's office at NOX in Rotterdam, surrounded by books. Whenever he wants to quote from one, he picks it up, frantically searches for the correct page and then reads out loud. The books are heavily underlined, with yellow Post-Its sticking out everywhere. His firm creates art and architectural works, though the art has been taking over in the last few years. They make huge sculptures that are always interactive in one way or another. D-tower, created with Q.S. Serafijn, is a "gothic" structure of epoxy that changes color according to the emotions of local residents. In the spectacularly curved metal structure that is the Son-O-House, people move around and create sound variations. Spuybroek is currently working on audible bridges for a project in Germany, and collaborating again with Edwin van der Heide on a huge glass and steel structure, Whispering Garden, which sings like the Sirens. And most incredible of all is the roundish sculpture Joe & Joey, which passersby can phone up, making the whole sculpture roll like a spherical wheel. Along with all this, Spuybroek is also a tenured professor and chair at the Georgia Institute of Technology in Atlanta in the USA.

I recently read your extensive interview in last December's AD issue on "architextiles," which was called "Textile Tectonics." In it, you seemed to do your utmost to explain to everybody how deeply your work was rooted in architectural history...

Yes...

Which didn't convince me at all until right at the end, when you suddenly related everything you do to the two major methods of creating architectural form: classicism and the picturesque. It seemed overly historicist, but really it's about relating the whole to the parts, and how to get around choosing one or the other.

At a certain point I was looking again at Corbusier's famous diagram that he made after his booming start in the mid-1920s, after building some of his first villas. He was classifying his own work. At the top there is Maison La Roche, which has a so-called picturesque composition of volumes. It stems from early Romanticism with its interest in the rural. Its picturesque mode of ordering means it follows an additive technique of massing. For instance, you'd have a farm, and when you got extra cattle or had children you would just add a room or stables, without any preconception of a whole, of harmony or proportion. Second in Corbusier's line is the Maison à Garches, a simple, uniform shape with a rectangular volume – this follows the classicist *modus operandi*. That technique starts with a whole and then subtracts other elements, like loggias, columns, windows, and so on. So the first one works with a method that progresses from the parts to the whole; the other works regressively, from the whole to the parts. Until the early 20th century, these were the only design techniques we had in architecture – one based on contingency, the other on order.

And then he added a third option...

That's exactly what it was, a third option. Though in the diagram he numbers them three and four, both designs – Maison à Stuttgart and Villa Savoie – basically follow the same model. The last one, the Villa Savoie, precisely embodies that third option. In its design Corbusier actually draws the picturesque and the classical simultaneously, on top of each other, superimposed, with an irregular volume framed inside a regular square volume. That's quite astonishing when you think about it, because if quasi-accidentally the rooms of the Maison La Roche were to grow step by step, additively, they would wind up suddenly fitting into the Maison à Garches. The great thing, of course, is that it only *nearly* fits. In the Villa Savoie there are spaces left between both models, so when you're outside the picturesque model, you're still inside the classicist one. This leads to the well-known window at the top of the house, which doesn't offer a view from the interior to the exterior, as in a normal house, but from exterior to exterior, because being in between two models left this ambiguous outer space – which was later theorized by Robert Venturi as "contradiction."

That's the Robert Venturi who wrote Complexity and Contradiction, a very important book which kicked off postmodernism in architecture. Wasn't your inaugural lecture at Georgia Tech entitled "Complexity without Contradiction"?

Yes. In the house for his mother in 1964, Venturi designed this huge split in the middle that makes the house readable as either a single volume with a cut in it or as two houses that have been moved close together. So it's an either/or, where the subtractive and additive coexist, and thus contradiction would come to mean "ambiguity" in Venturi's line of thinking. Since Corbusier we have been struggling with this third option: how to understand contingency and order at the same time, within the same continuum? It was always Mies *or* Cage, necessity *or* chance, as in the title of the famous book of Jacques Monod – well, it was *Necessity and Chance*. Never both at the same time. It's our most important philosophical problem to solve – not just in architecture, but everywhere. To keep it short, I'd say that in theorizing this third option, Venturi's terminology was correct in the case of complexity, but with contradiction he was mistaken. Simply because complexity doesn't have another side; it's a contemporary form of monism, and actually, complexity occurs precisely because there is no contradiction, because there is continuity. Nothing is put aside. As Charles Sanders Peirce says: "All things swim in continua." Or, putting it a bit differently, you could say "all the determined occurs in the undetermined." Which brings us to Peirce's definition of vagueness and potential, a definition that Brian Massumi gave me years ago: "Potential means indeterminate yet capable of determination... The vague always tends to become determinate, simply because its vagueness does not determine it to be vague... It is not determinately nothing." So, we have ambiguity being an overlapping of two determined states, and vagueness, which exists in between two determined states. I think complexity operates on vagueness, not on ambiguity or contradiction.

Architects can't understand order and contingency in an ontological relationship, as one producing the other; they just see them both as structures.

How's that?

They understand order as form, and contingency also as form. It's like the *Vitruvian Man*: because the body is symmetrical, they also draw it as symmetrical, which is ridiculous because I am never symmetrical, not even when I try very hard. I'd have to be dead to be symmetrical. Architects mix up organization and structure, the virtual and the real. Of course, my body is a symmetrical organization, but that doesn't mean I am in a symmetrical position. They always understand these states as existing on the same level, like regular and irregular or repetition and difference. Of course order is not on the same ontological level as contingency. Order is not form. For an order to be expressed, it has to be differentiated and become contingent. Everything is contingent, unique, actual and different – things can only be contingent; there is no other form of existence. We can design objects that are symmetrical in organization but asymmetrical in form. But to be able to do that, you have to understand that is not a contradiction. Let's go back to the third option for a moment. What would you need to have parts configure into a square? You'd need coordination, you'd need a set of locally operating rules, not of form but of formation, to have the parts coordinate in such a manner that in special cases it would result in a square. In other words, it wouldn't be enough to have the parts just added onto each other, as in the picturesque model. It would need correction, or, as we call it nowadays, feedback. Smaller-scale events would lead to larger-scale effects that feed back onto the parts. Regressive causation at the same time as progressive causation. Interaction. The relationship between the parts is not linear but nonlinear, multiple; there is an actual multiplication of the whole and the parts; they send information back and forth. So we already had additive techniques and subtractive techniques, and now we have *multiplicatory* techniques too, as a third option. And these understand order as flexible, topological and vague.

Doesn't that refer to Deleuze's term "anexact yet rigorous"?

It's amazing to see that quote turn up again and again, but yes. I think he used it for the first time in his famous Vincennes lecture in 1979, which was a precursor to one of the last chapters of *Mille Plateaux*, where he suddenly talks about the vague and the vagabond. There is a section where he distinguishes between the round and the circle. While the circle is an a priori form, a formal essence, the round is an a posteriori form, a vague essence, something that results from a process and doesn't have a midpoint or a

radius. It's constructed on the line itself. But the line is topological, flexible; it's made by bending, curving, like riding your bike or driving your car. So – and here we have it – it's created by continuous variation, by what he calls “matter-movement”. Matter as active, as epigenetic, as self-organizational, as formative – all these things we now classify under complexity theory. Now, the rigor lies in the fact that precisely this movement, this flexibility, is productive; that continuity is actually capable of producing “things,” as Peirce would say. It's not slime or oceans that result from continuity, but discrete objects. So gradual variation on one level creates episodic variation on the other. But first we'd need to look at gradual variation. I had no idea it had such a history in aesthetics.

I know gradual variation from Darwin, but not from aesthetics.

It's in Hogarth's *The Analysis of Beauty*, which is a very intriguing book. All these discussions on the whole and the parts are at the heart of aesthetic theory, and for that you have to go to the English. Because of their empiricism, they became the theorists – almost the physicists – of beauty.

Generally, we know two categories of aesthetics: one is beauty, the other is the sublime. One is form without forces, the other is forces without form. It's not exactly the same as classicism and the picturesque; they are related, but not the same. Hogarth uses the word “picturesque” several times, though, but next to that also “grace,” “intricacy,” and most important, “variety.” On the title page of the book he put a symbol of variety he designed himself, a snake in a pyramid-shaped box, with the word “variety” at the bottom. Variation is expressed first and foremost through the articulation of a curved line: the serpentine line, as he calls it. Shaftesbury and Hutcheson, the two most famous advocates of aesthetic theory, used the term “variety” thirty years before Hogarth, but for them its relation to beauty was different: it was “uniformity amidst variety,” meaning variety was controlled by an ordering mechanism of proportion and harmony. This changes completely with Hogarth. His position really lies between controlled beauty and the uncontrolled unleashing of forces of the sublime. The major problem with the sublime is that while it does away with God and goodness, the transcendent commanding bodies, it allows nature in through the back door, replacing one transcendent category with another. Hogarth is very outspoken on Burke's idea of the sublime: “It is variation without limit or termination” that fills the mind “with one grand sensation [...] totally possessing it, composing it into a solemn sedateness.” The sublime is as passive as beauty. It shouldn't be too difficult to extend this criticism of the sublime to 20th-century autonomy, minimalism and deconstruction, all offspring of the sublime. It leaves us empty and refuses all interaction.

Hogarth's aesthetics is an empirical and living aesthetics; it's an active image that activates the body into a “wanton chase of the mind” through “an infinite variety of parts.” Hogarth's most exemplary topics are hair and crowds. He goes absolutely wild when describing hair, “the flowing curl,” “wanton ringlets,” “the many waving and contrasting turns of naturally intermingling locks [that] ravish the eye with the pleasure of pursuit.” He never reduces the serpentine line to a singular fixed figure; it is always about curves in curves, multiplying a movement in another movement, as with his examples of the horn and the cornucopia, which is bent but also twisted around its bendings. I think what Hogarth does is to push beauty in the direction of the sublime without actually wanting it to arrive there, or to put it in modern terms, putting order on the edge of chaos. Especially when it comes to crowds or faces. His sense of the crowd is very close to our notion of the flock or swarm, of local movements that make up a flexible, intricate whole, in a “joint-sensation of bulk and motion,” as he writes. In the preface to the book, Ronald Paulson uses the term “an aesthetics of the crowd,” which describes very well Hogarth's idea of variety itself being constructive. It doesn't need an underlying geometry; he completely rejects Shaftesbury's idealism. It is coordination and variety that make the parts “lose their distinctive shape [...] into a confused heap.” So he positions it exactly between deformation and formalism. It's a formative concept in contrast to both; it works from the parts to the whole, so yes, it's picturesque, but the parts also lose their distinctiveness and become a whole, a vague and unclear whole that needs to be discovered and “pursued.” It's a very old aesthetic problem to show an object or a figure amidst forces, between being torn apart and being created. It's everywhere – in Bernini's treatment of folds, of course, and in his treatment of hair, and more extremely, Mucha's hair. My goodness, is there anything more beautiful?

But aren't you simply discussing ornament here?

Sure, of course, but something else too. We have to understand that a philosophy of matter that explicitly upholds matter as movement, and therefore makes no categorical distinction between animate and

inanimate – where *matter and life are on the same side*, so to speak – that this inevitably leads to an aesthetics of matter, simply because there is no inbuilt distinction between natural and artificial. And an aesthetics of matter then immediately relates to life and to living things, that is, possibly but not necessarily, plants and animals. Ornament, yes. We should discuss more art history here: art nouveau and especially the gothic. I remember being in our water pavilion with an English art historian years ago, just after it opened in 1997, and he was pointing at the sensors and the grids projected over it – you remember?

You mean the interactive grids that turned into ripples and waves when people jumped on the sensors? Wasn't that generated in real time by computers?

Yes, people jumped on the sensors and immediately real-time calculated ripples started shooting from their feet. What was so amazing, however, was that the art historian cried out, “Robert Adam!” I thought he was out of his mind, but now I understand how correct he was. Adam’s 18th-century circular ornaments on the ceilings sprouted over a whole field of stucco, filling it with life – not with an image or imitation of life, but putting life in stucco itself. He was totally right with that comparison. I think that’s what is often lacking in interactive electronic art; a sense of art history. Anyway, art nouveau. Mucha’s hair: pure proliferation. The curves of art nouveau are very different from Hogarth’s S-curves. The serpentines have two loose ends – variation progresses all the way through the line, a bit like Pollock’s arabesques, but the curves of art nouveau have both a loose end and a fixed end. They are vegetal; that means they are rooted on one end and loose on the other, and go with the wind or the water. Following the line there is an increase in curvature. It starts out quite straight at the one end, and slowly becomes more curved, and then at the other end there are suddenly three or four extra twists and turns. That’s why they often called it a “whiplash,” and it’s also the reason why Walter Benjamin calls art nouveau dangerous: because it is dreamy and floats in the wind or under water, like water plants, which have a similar type of curvature. At the same time, there is a strange passivity and movement in art nouveau. The bodies, mostly female, are almost always asleep, or gazing into space and daydreaming, while the fabric is intricately folded and the hair is curling in millions of tendrils. Mucha’s plates are just amazing. First, it is an art of the many. To deploy variation, you need many parts. Then they need to be coordinated; there needs to be a certain similarity of figure or else there is no proliferation. Proliferation is an extremely serial type of variety. Then we need effects that occur in one area to be feeding back into other areas. So it is an art of multiplication too. You can only do that with curves, with continuity. You need to vary in the variations: there are entanglements, there are strands of multiple hairs, there are mergings, there are crossings. See? It’s not just hair blowing about in an invisible wind. There are individual hairs that become collective strands or tendrils, and they also form networks of crossings, so there are configuring properties in it. That’s essential in this aesthetics. With Mucha, you get the best proliferation, the best cascading of hair, strands, tendrils, crossings; it’s like Horta’s railings in wrought iron. You’d think the crossings were accidental. Of course, the mergings, like multiple lines merging into one strand, are structural, but the crossings that seem accidental are also used to improve the structural properties of the railing. In short, iron lines progress step by step, through a set of singularities, into a lattice surface that forms a railing – without becoming a grid, I might add. They move by forces, then they find each other, stick together and form structures...

You’re saying it’s not just ornament – it’s structure.

Exactly. That is the point that is always missed by everybody, as if we are only tracing movement, and these lines aren’t capable of creating lasting structures. It’s my main criticism of interactive art too: it simply replaces an obsession with form, which is memory, with an obsession with event, which is the present. Of course, to have the actual experience in the artwork itself just shatters modernist autonomy, and I’m all for that. But to have only discrete “nows” one after the another, with no relationship, is as confusing as having Korsakoff’s syndrome. You’ll never be able to form concepts. Maybe I should clarify this a bit more. Let’s put all forms between solid and liquid on a line. Solid is on one side. That’s how architects generally understand form: idealized, crystallized, a priori, archetypal. No dynamics, no contingency, only memory. I think the first one after solid form going in the direction of liquid is *structure*: it’s more open, not necessarily Platonic. It’s not the dead clay of Platonism; there are forces, points and lines involved, but it is as static. Then we have *configuration*; it’s the word some of the Gestaltists used for form. There is a going back and forth between actual perceptions and virtual memories; it’s much more dynamic than structure. Next to configuration, we have the modern notion of *pattern*, which is sort of between

information and form; it is generally considered as fully emergent. All these books on pattern nowadays are full of zebra stripes, shell pigmentation, sand-ribbing, mud-cracking, soap and bone structure, and so on. All patterns that were single forms and formulas a hundred years ago are now very complex patterns, full of “imperfections” and irregularities. Then, I guess, closest to completely liquid, we have Deleuze’s *rhythm*, his continuous variation and modulation. Waves, turbulences, swerves. Water with singularities, slightly viscous and thickened. It’s quite an effective notion, because it circumvents Kant’s schematism. With Kant, all the particulars you see – for example, a dog on a warm Sunday morning – contribute through synthesis to a generalized scheme of dogness, a memory structure that you obviously need to recognize a dog in a new encounter as a dog and not a tree or a cat. But the moment dogs add up to dogness, it freezes into a transcendental category that makes all dogs old dogs, which Deleuze happily saves us from – visuals with him stay active, operational. Perception and action form clustered entities – rhythms, he often calls them, or percepts, which are not perceptions. So they are memorized, but plastically, which fits in much better with modern neurology than Kant’s ideas do. Images are active images, not just things you see. Now, to return to art, we need to realize that every theory of perception is inherently a theory of aesthetics: seeing, making, seeing, it’s all constructive – we can use that word as long as we are careful.

Your argument is getting more and more structural. This is surely why you are so interested in the gothic. You speak more and more about it. In Ludovica Tramontin’s Italian book on you, NOX, there are dozens of references to gothic style, and you both discuss it extensively.

We need to examine the work of Wilhelm Worringer here. “The Ceaseless Melody of the Northern Line” is one of the chapters in his book *Formprobleme der Gotik* – in English, *Form in Gothic*. Let’s just start off with: “in Northern ornament repetition does not bear this restful character of addition...” – and with this he means classicist symmetry – “... but has, so to speak, a character of multiplication. The intervention of any desire for organic moderation and serenity here is lacking.” A shot right between the eyes of Alberti. Symmetry replaced by repetition, by serial rhythms of multiplication. Nobody really understood at the time how Worringer could have done this book on the gothic three years after his famous *Abstraction and Empathy*, which became the bible of early abstract painters. But it’s the same expressionism: “the Northern line does not get its life from any impress which we willingly give it, but appears to have an expression of its own, which is stronger than life.” And then, of course, the one Deleuze always quotes when discussing his concept of nonorganic life: “The pathos of movement lies in this *vitalized geometry*,” and “When the natural barriers of organic movement have been overthrown, there is no more holding back: again and again the line is broken [...] again and again it is forcibly prevented from peacefully ending its course [...] it ends in confused, spasmodic movements, breaks off unappeased into the void or flows back upon itself.” Crucial here is the opposition not just to mechanical geometry, but also to organic purposiveness, which is pure Alberti. That’s all about geometrical structure being made beautiful by organic ornamentation. There’s no such distinction in gothic style; there, the structure itself is “vitalized.” It is curvability itself that creates the structure. It saves us from mechanism and organicism at the same time. When we compare them to the S-curves of Hogarth and the J-curves of art nouveau, we acknowledge that gothic curves have fixed ends on both sides, and that all flexibility is deployed in the middle areas. These ends can be parallel, aligned or diagonal (the ends are always tangents, and therefore straight), but the curvability is in between. The restlessness lies precisely in the tangents being switches, like in a railway system; they can always take over each other’s movement. And they need not do so only at the ends: one end can link up to a middle zone at any time, precisely because the systemacy encourages the sharing of tangents. And it is structural, actually infrastructural, because loads are movements. I have said this before, in the interview you mentioned, but in the gothic there are no a priori forms as there are in classicism, like the column, pedestal, architrave, dome, et cetera. There are no catalogues in the gothic, like those of Vitruvius, Palladio or Serlio that set the standard. In the gothic, everything is created with ribs. There are no comparable elements in architectural history; it’s actually much more of a subelement. Ribs are quite abstract on the one hand, and on the other they seemingly behave as real, bendable, almost vegetal or textile elements: too weak on their own, they need to bundle, to weave, to configure with others to become strong. So strong is always collaborative and emergent, a posteriori. Maybe it’s not so much structural as it is a constructivism. Therefore, columns are bundles of ribs in gothic architecture, and these bundles loosen at the top into a fan and subsequently start to weave together with other unraveled ribs from other columns to form a vault. All forms are results of movements – structural movements that are shared, passed on from one to another. It’s crucial to note, however, that movement and variation are not only tools of deformation; there are also

structuring states of singularities, that is, transformative properties. Gradual variation leads up to episodic variation, to bundling, thickening, and when you look at the large radial windows in gothic style, you see switchings, mergings – a wide variety of patterning typologies. Of course, architecture is an art of ascending dimensions and scales, from line-column to surface-wall to volume-building. But while in classicism – as in modernism – they follow Euclid's leaps of scale, in gothic style they never leave the line: it thickens, bundles, weaves into surfaces and curves into volumes, but the rule is never to leave the line.

It is in that sense barbarian, one might even say pagan, like Celtic band ornament: with ceaseless interlacing, braiding and knotting, its aesthetic comes very close to hair and textile art.

I would like to discuss some of your projects. I'm interested in what you will do with all this history of variation. Are you moving towards a neo-gothic, revivalist position?

I am not really neo-gothic, but almost. I say “almost” because I want to make clear that I take it seriously as an artist and as a designer, and that I don't want to jump from one capricious idea to another. I think there is far too much “everybody can do anything at any time” nowadays. It's like all the stakes are gone. And in criticism, it's even worse than in architecture itself: they just type away, like the wind in the willows – nothing happens.

First of all, the gothic and the neo-gothic is everything I described above, but in stone. We do not use stone anymore; our era is not monolithic but composite. Steel has added tension to our structures. So we need to take the methods and rigor of the gothic to another level. But I have to admit that my appreciation of the gothic is sometimes very extreme, if not Ruskinian. I think I'm the only one left who likes to read Ruskin. He hated the Renaissance and idealism – just perfect. He launched Turner into everlasting fame. He calls gothic style “foliated,” and in listing the characteristics of the gothic he puts “savageness” at the top, and then “changefulness” – that's even more perfect. As far as I know, he drew the first algorithmic tree, the diagrammatic code of a tree, like an L system. And a logarithmic acanthus leaf too. And Ruskin painted the most beautiful rocks and geological formations – absolutely mind-blowingly beautiful. He was a mountaineer. *The Stones of Venice* were surpassed by the mountains of Switzerland. In *The Stones of Venice* there is a chapter called “The Material of Ornament.” I can't see anything wrong with the man.

“Lines of this kind are beautiful,” he says in this chapter, referring to the lines of ornament that stem from natural curves like glaciers, worms and leaves, “because almost all these lines are expressive of action or of force of some kind, while the circle is a line of limitation or support. In leafage they mark the forces of its growth and expansion, but some among the most beautiful of them are described by bodies variously in motion, or subjected to force: as by projectiles in the air, by the particles of water in a gentle current [...] by clouds in various action upon the wind, etc.”

I used Ruskin in the design of one of the footbridges in Germany, and for the project *Joe & Joey*. The bridge is called the Ruskin Bridge, by the way.

Can you describe it for us?

It's a round bridge, perfectly circular. And it is right in the middle of a natural resort; that's why I painted it with foliate curves – it's a huge twenty-meter-wide ornament. It's probably the largest ornament in the world. The circle – the line of limitation, according to Ruskin – is surrounded by a world of forces: violently streaming water, wind in high trees, which end up in the circle as Ruskin's lines of force. So the powers of variation are operating at the same time as the powers of limitation. The other project is a relative of this one, but it's more interactive and a bit less round. It's called *Joe & Joey*. Here, I had two images in my mind. One is Logan's Rock, which is a rock in England, the kind they call a rocking stone: it's balanced on a single point, as a result of wind erosion. It was a big inspiration to Naum Gabo. *Joe & Joey* is a round sculpture with no pedestal or base. The other image is a watercolor by Ruskin: a huge, brown, round rock lying on the ground with green ferns growing from it. Mineral and vegetal. When I see that image I immediately see *The Stones of Venice*: foliated rock. Anyway, Joe and Joey are two small, heavy sculptures in a large round cage. Each has its own phone number, and when you call one of them from your car as you're driving by, it moves over a central rail, and when they move, the center of gravity of the whole cage structure shifts, and it rolls a bit, since it's round. So the reason the variation of movement ends up in a near-sphere is because of rotational freedom: it needs to have as many degrees of freedom as possible or else it won't move.

I understand this roundness, but why would the bridge be round?

It's not that the interlacing curves of the ornament are incapable of creating different contours; of course they can. It's just because there's nothing else going on. The bridge doesn't connect to anything else. In that sense, it's not even a bridge, because it doesn't go from one side to the other – it's in the middle. It stretches out in perfect symmetry, which is not exactly a classical symmetry, because it is exactly there where it connects both sides of the river. [*I DON'T UNDERSTAND—LM] I just couldn't resist the idea of a round bridge, like you can never cross the river. But it is also round simply because it is small. I generally see asymmetry as broken symmetry, developed from an initial symmetrical state, and this one just hasn't gotten very far morphogenetically.

We should look at larger architectural examples, then. Maybe one of your libraries, like the one for Guadalajara? It's a pity that it wasn't built. It's obviously referencing the gothic, though it's not so much gothic in style as in methodology.

Yes, it uses the concept of interlacing very rigorously. It all starts with structure, but as a metric system, as a beat. In looking at the scale of a building, I always place structure in between massing and texture. In this case, I did the same, but used structure more as a diagram, as something topological and flexible that can develop one way into texture and the other way into massing. It is living, hot steel, not the beams you order afterwards from the steel contractor. The system is derived from Henri Labrouste's St. Geneviève library in Paris: a column continuing in an arch and becoming a column again. We started with three bays next to one another, each spanning 15 meters across. So, in terms of massing, the block is made up of three parallel bays. Then we developed a number of figures, like Hogarth's S-curve or art nouveau's J-curve. We have an I figure for a single column, an A figure for a column that splits downward, an O figure for a column that splits and merges again, and finally, a Y figure for a column that splits at the top and rearranges two parallel bays into one double-sized bay. These figures interrelate and configure into larger patterns. Figure-configure: it's a matter of scale. These configurations can increase and decrease according to certain rhythms, and the figures also develop in the longitudinal direction to make it more stable. So it is a serial treatment, and effects multiply across and along the building. Instead of adding diagonal bracing afterwards, we started weaving in both directions, lateral and longitudinal. Every time the columns cross, they create openings in the floors, and thus it becomes a porous system, in all directions: light pours in, and space becomes fully mobilized and deployed. Massing becomes an effect as a result of a weaving technique. And texture is also an effect. There is an increase in scaling down the structure because of the woven diagonals, so a closing effect starts to occur, a shift from pure lines in a row toward surfaces. It doesn't jump from one-dimensional lines to two-dimensional surfaces – it transforms. It has a typical transitive geometry, as in many of my architectural projects.

You designed a second library, also not built, which has similar themes but looks quite different.

That's the one for Stockholm. You see, when I do competitions I work on my own problems more than those of the city or the jury. And by my own problems I mean architectural problems. One of them was: Can I use the same techniques of variation to create a volume that bulges not outward, like in Guadalajara, but inward? I wanted to create a civic, public space, like Schinkel's loggia in the Altes Museum in Berlin. A space where people can hang out, perform, sit, walk in and out, almost like a cave. And the second problem I wanted to work on was: Can I create a surface that mixes closed and open without making it a wall with windows? Like a perforated sheet, but then larger in scale. I wanted to mix closed stainless-steel panels with open glass panels like waves going up and down, as a variable, parametric function that can gradually change into a very open state around the entry area and a very closed state around the auditorium area. Since architecture often needs mechanical subdivisions, even if we don't really want them, your system of continuous variation still has to be able to deal with that. This idea of variation is strengthened by the fact that each of the steel panels slightly torques out of the surface geometry, so that along the façade you see the panels cascading and resonating in fluid patterns running over the surface. There is a continuous change of lighting and reflection. When you walk you see, and when you see you move. It's as if the panels are proliferating at the same pace as the people are passing by.

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