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Gothic Ontology and Sympathy¹

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When writing what I call the ‘Sympathy-book’ (*The Sympathy of Things: Ruskin and the Ecology of Design*, 2011)² I encountered two specific problems that made it almost impossible to proceed. One was of a theoretical and the other of a historical nature. The scholarship in architecture schools dealing with theory is most often part of history and theory departments; a marriage arranged for practical reasons. Because of the nature of archival work, cross-referencing, and the simple fact that it deals with the written word, the discipline of history presented itself as the obvious partner for theory. Needless to say, many dangers have arisen from this connection. One direct threat is that the original friction between them tends to dissipate over time, and that any practical parity takes on a conceptual character. For instance, theories of design might validate themselves through mere historical reference. Or, conversely, theories of design might think of themselves as validated by rewriting history in such a way that its argument logically follows. Another danger — one that we have suffered in architecture over the last thirty years — is that history enables a ‘critical’ view of the present; making students of architecture conceive of theory and criticality as synonymous, and, worse, leads them to think that critique can be built.

For my part, I do not think that any analytical method of critique can be married with the fundamental synthetic positivity of the act of design, let alone the act of building. I vividly remember being in a panel during the 1999 edition of the ANY conferences held in Paris with architect Peter Eisenman and art theorist Rosalind Krauss.⁴ To call the double act unpleasant would be an understatement. While Eisenman was doing a deconstructivist critique of Frank Gehry’s Guggenheim Bilbao — comparing the building none too subtly to Speer’s *Lichtkathedrale* — Krauss was seconding him with constant nodding and calling the Bilbao museum ‘Mickey Mouse architecture’. Eisenman would proceed by showing his own projects as proof of his

¹ The following essay is derived from a keynote lecture delivered at the *Speculative Art Histories* symposium held at Witte de With Center for Contemporary Art in Rotterdam from 2–4 May 2013. The lecture was a reflection on the writing of *The Sympathy of Things* during the years 2009–11.

² Lars Spuybroek, *The Sympathy of Things: Ruskin and the Ecology of Design* (Rotterdam: V2_Nai Publishers, 2011). A second, revised and expanded edition will be published with Bloomsbury Academic in the spring of 2016.

⁴ See also: *Anymore*, ed. by Cynthia Davidson (Cambridge, MA: MIT Press, 2000), pp. 145–89.

deconstructivist theories, while at the same time he had made sure there was a platoon of theoreticians hidden in the audience who would stand up one by one to confirm whatever he was saying. For Eisenman, criticality and building were not two fundamentally different acts of thought. Indeed, they were the very same: the taking apart of one thing was equated with the putting together of something else. In language it is already deeply problematic to write against writing, but there always exists the loophole that allows the written merely as the record of analysis. The object of writing can escape its subject. In architecture, however, it is abundantly clear that we cannot build against building, that we cannot construct deconstruction. It was as if Eisenman would deconstruct at daytime, and have his engineers put structure in during the night, when nobody was watching. Theory would present him with the shifts, cuts, and folds; and engineering would harden it out afterwards. For me this lesson meant one thing: if I was going to write a theory of design, and especially a theory developed from history, I was not going to make it a theory of *how to* design. In that sense, *The Sympathy of Things* is only half a book, since it offers a design theory without design. It presents a philosophy of design without showing how to design with it and without establishing formal rules.

The second problem was as hard as the first. Since I embraced the notion that a theory of design could be historically biased, the question became how can it be so without being traditionalist. The only answer I could find was by doing a 'bad' historical analysis, by doing *ill-disciplined history*. The more I studied John Ruskin the more I felt that a historical treatment of his arguments would bury him deeper into a past that is forever lost. Historiography generally positions a historical figure in his or her own period and reconstructs their development as a development from *their past*, that is, by tracing lineages and uncovering evolutionary branches. The fact that Ruskin's notion of the Gothic was itself ahistorical and that his concept of sympathy was radically different from the earlier and better-known ideas of David Hume and Adam Smith, and far closer to those of Alfred North Whitehead and Henri Bergson, who to my surprise never even quoted Ruskin, made such a 'non-story of history' necessary. In itself this does not present problems that cannot be overcome, but the true question emerging from such an approach is how one can write a non-history that is precise and intellectually rigorous. If I was not relying on causality and chronology, on what then?

At this point exactly the book started to flip over. I started to notice that the theory did not lead to design, but that design led to theory, or, as I call it, Gothic ontology — a term that makes historians and philosophers equally mad. From using a philosophy to look at design or base design decisions on, I started to develop a philosophy from a design aesthetics, and in that way not only making Ruskin into an ahistorical figure, but also turning the Gothic into a philosophy freed from the late Middle Ages and Christianity. Clearly, this can only be partially correct, and that is where the issue of precision comes in. Like incision and decision, the word precision is derived from cutting. By its nature a precise operation cannot consider the whole of

Ruskin, nor the whole of the Gothic, and needs to trace parts — a butcher would say ‘cuts’ — that allow themselves to be lifted from their historical background, while others would safely remain in the body of history. Paradoxically, if we take the term ‘lifting’ literally, it seems that historical figures transcend history. And though it means that we could speak of the *Sympathy*-book as ill-disciplined history, it cannot be disqualified as an ill-disciplined method. Though the question remains what half a theory and half a history can be — as yet I have not found the proper word for such an exercise.

In a sense, Ruskin himself construed many ahistorical or meta-historical arguments, and it is not by accident that Paul Frankl called Ruskin a dilettantist.⁵ On top of that, many of Ruskin’s critics and followers also made attempts to lift him from his Victorian context, and often for the same purpose as I have: to make him contemporary. As I say in the introduction, the Ruskins of Marcel Proust, Peter Fuller, or Raymond Williams are often as ahistorical as Ruskin’s queries. And Kenneth Clark tellingly called his 1964 anthology *Ruskin Today*. In *The Sympathy of Things* I join a tradition that butchers, recombines, and plunders the history of the Gothic according to the needs of the present, but invariably uses it as a weapon against classicism, that other architecture claiming the right to historical transcendence. Whereas the latter constantly restates the same universalism, the Gothic is always changing its face and adapting — fitting itself into a bourgeois niche, as in art nouveau; becoming historically self-evident, as in the Victorian revival, or in my case — which is not so much revivalist or expressionist — taking the form of a digitalized incarnation. Though I should stress again, in the book I do not develop the digital argument to the full; I merely make a beginning. Thus my attempt is to dig up and steal the most precious corpse of the English and run away with it as far as I can by developing the notion of Gothic ontology, which is slowly developed into a notion of sympathy.

While I have understood that Ruskinians generally appreciate my reading of Ruskin, it is not a traditional reading, which would stress his naturalism or his stance against machinery. Art historians such as Henri Focillon, Hans Jantzen, Frankl, and Jean Boni disparage Ruskin for his reading of the Gothic, which on the whole they tend to ignore. According to them it is incorrect, a-structural, and altogether too Christian. But I think Ruskin is extremely precise and to the point. ‘The Nature of Gothic’ is a chapter in the second volume of *The Stones of Venice*, which also includes the very important chapter ‘The Material of Ornament’. In the first volume of this book, we still find a more or less classic notion of the Gothic. Historians of the early nineteenth century, for example Robert Willis, argue that a valid reading of the Gothic should be based on what they call a ‘membrology’.⁶ For a proper historical analysis of the Gothic a historian should consider the members or the parts, that is, the columns, pedestals, finials, pinnacles, etc. I think

⁵ Paul Frankl, *The Gothic: Literary Sources and Interpretation through Eight Centuries* (Princeton: Princeton University Press, 1960), pp. 557–62.

⁶ Robert Willis, *Remarks on the Architecture of the Middle Ages: Especially of Italy* (1835). Later redefined by Paul Frankl in: *Zu Fragen des Stils* (Weinheim: VCH, Acta Humaniora, 1988), p. 17.

there are major disadvantages to such a method. It is true that Gothic architecture consists of very recognizable members; however, to understand their variation through the mere cataloguing of such members will not suffice. Like Ruskin I have been asking myself: What enables such variation? The answer cannot be found in the mere typological substance of members only. I think the answer lies behind the same reason that Ruskin did not write ‘The Stones of Salisbury’ or ‘The Stones of Abbeville’, though later he wished he had written the latter.⁷ Why did he choose the Venetian hybrid to theorize the nature of the Gothic? And then, even more interestingly, why does ‘The Nature of Gothic’ not consider the Venetian Gothic at all? What makes that chapter on the nature of the Gothic so valuable is that it considers a meta-story of the history of the Gothic, describing it as detached from its members and parts.

From an ideological viewpoint, Ruskin is very close to the arguments of A. W. N. Pugin, not only as an advocate of the Gothic, but especially as an anti-classicist.⁸ Like other protagonists of the Gothic, they are both fulminating against classicism as ‘an architecture invented, it seems, to make plagiarists of its architects and slaves of its workmen’.⁹ Learning the trade of designing architecture from a classical stance means that one follows the books of Vitruvius, Serlio, and Palladio, which constitute the canon of classicism. The art of design becomes an art of copying from the canon, which can only work when all solutions are typologically fixed, wholes as well as parts. The rules of universalism dictate that the rules apply anywhere. Pugin and Ruskin understood correctly that such universalism is always a form of imperial power, making classicism more Roman than Greek in character. The way the Romans colonized foreign land by imposing the same urban grids, the same typologies of amphitheatres and basilicas is the same power that forces a workman to execute a drawing through stone cutting or wood carving. First the architect needs to plagiarize Vitruvius and then the workmen carve the details and ornaments exactly as the architect drew them up. In this way, architecture makes slaves of its workmen and hedonists of its inhabitants. Ruskin’s work on the Gothic, in this anti-classicist sense, is both a moral and a political criticism of design.

Ruskin goes quite far in following Pugin, but while Pugin’s criticism is almost completely based on Christian arguments, Ruskin adds in ‘The Nature of Gothic’ the famous six characteristics which transcend religiosity: savageness, changefulness, naturalism, grotesqueness, rigidity, and redundancy. In the context of Gothic ontology I will discuss only the first two characteristics, ‘savageness’ and ‘changefulness’, and how they relate to the fifth one, ‘rigidity’. Why do these play such an important role in something as fundamental as ontology? Firstly, because savageness and changefulness play roles that are crucial in the understanding of

⁷ John Ruskin, *The Works of John Ruskin*, Library Edition, ed. by Edward Tyas Cook and Alexander Wedderburn, 39 vols (London: George Allen, 1903–12), XIX, p. xlvi.

⁸ Augustus Welby Northmore Pugin, *Contrasts or a parallel between the noble edifices of the fourteenth and fifteenth centuries, and similar buildings of the present day; shewing the present decay of taste; Accompanied by appropriate Text* (Salisbury, 1836).

⁹ John Ruskin, *The Works*, XI, p. 227.

discreteness and continuity, a distinction we encounter in science as that of particle and wave, and in philosophy as that of being and becoming, one stressing spatial stability and the other temporal transformation. Ruskin's two characteristics are in fact technical terms that lie at the basis of all mereology, and I think aesthetics has developed solutions both earlier and more precise to conceptualize their relationship. 'Savageness' sounds at first like an awkward term that reminds us of Jean-Jacques Rousseau's noble savage and other Romantic theories of primitive purity, but the way Ruskin describes savageness relates strongly to an invention of the same period as Rousseau's, by Uvedale Price, who came up with the notion of 'rough variation', which lies at the basis of his concept of the picturesque.¹⁰ Roughness is the form of variation that allows things to be discrete, to break away from each other. Gilles Deleuze's stratification is clearly a form of roughness, and, like Price, Deleuze associates roughness with mineralism, geology, and tessellation. But I think Deleuze always had a too simplistic concept of roughness, shelving it too swiftly under order, power, and territorialization, as forces opposing smoothness. Ruskin's changefulness coincides with that other notion of variation, namely smooth variation (what Deleuze calls 'continuous variation', and what Bergson calls 'difference in degree'), and was invented earlier by aestheticians like William Hogarth and Edmund Burke.¹¹ Gothic ontology is an ontology that understands existence as an interaction, or alternation, of two types of variation, one smooth and gradual, and the other incremental and rough — that is, both are necessary for things to exist, allowing them to be and to change.

There is a more profound reason why aesthetics cracked these problems earlier and more convincingly than philosophy, and I will try to clarify this as we go along. As two aesthetic categories, smoothness and roughness were first considered in their combination during the development of the picturesque in the late 1750s. Ruskin was the first to apply these concepts to the Gothic, and what is especially important is how they lead to the notion of rigidity. Ruskin has always been accused of being a flawed reader of the structural concepts of the Gothic, but with the concept of rigidity he adds a very novel and important idea.

Wild Design

Savageness is the most complicated characteristic of the six that Ruskin lists. In *The Stones of Venice* Ruskin says: 'Imperfection is in some sort essential to all what we know of life'.¹² This is the first time Ruskin uses the notion of life in *Stones*, though he had already used it in *The Seven Lamps of Architecture* in the chapter 'The Lamp of Life'. When reading the whole of Ruskin's work one constantly encounters life or vitality, and my main argument in the first pages of the

¹⁰ Sir Uvedale Price, *On the Picturesque* (Edinburgh: Caldwell, Lloyd & Co., [1796] 1842).

¹¹ William Hogarth, *The Analysis of Beauty*, introduced by Ronald Paulson (New Haven: Yale University Press, 1997), chap. X; Edmund Burke, *A Philosophical Enquiry into the Origin of our Ideas of the Sublime and the Beautiful* (Oxford: Oxford University Press, [1757] 1998), sections XIV and XV.

¹² John Ruskin, *The Works*, X, p. 203.

Sympathy-book is that Ruskin, who is often read as a Christian theoretician of the Gothic, is a sort of crypto-vitalist. I say ‘crypto’ because he is not using the term theoretically, certainly not as explicit as Hans Driesch or Bergson. Nonetheless, he uses the word ‘life’ in a very instrumental and very precise manner throughout all of his books; not only when he discusses ornament, or the making of buildings and paintings, or the way paintings compose themselves (which he calls the ‘Law of Help’), but also when he talks about matter in general or plants, or social structures and political economy. He constantly refers to this notion of life and vitality, from his earliest to his very last writings. What becomes directly clear is that his usage of the term ‘life’ is not exclusive to animate beings, and includes the inanimate as well.

Life, simply put, means that things are not just there, but are being made and unmade; moreover, that these three stages of existence should be understood in connection to one another. Ruskin states that ‘[n]othing that lives is, or can be, rigidly perfect; part of it is decaying, part of it is nascent’.¹³ Instead of looking at the object in space, he looks at the object in time. Through the object goes a vector that creates it — this is its nascent moment, which relates to Ruskin’s earlier ideas about vital beauty in *Modern Painters*¹⁴ — and at the same time breaks it down, which means that part of it is already decaying. For Ruskin three times cooperate in the existence of an object: one of being composed, one of being as such, and one of being destroyed. A philosophy of existence cannot simply claim the middle state as the one of stability and safely discard the other two. Being is an activity, and when we relate it more precisely to the notion of savageness we should say, being is work. Again and again, Ruskin associates the quality of savageness to the ‘wildness’ and ruggedness of workmen, to the Gothic stonemasons and the carpenters. Here we recognize the concept of the picturesque from a century before. After Burke had opposed beauty and the sublime, Price positioned the picturesque between these opposing tendencies. Ruskin’s vital beauty has to be understood as leading towards the picturesque and the picturesque itself, which Ruskin called the ‘parasitical sublime’,¹⁵ is already moving away from Price’s middle point towards the sublime. So by means of savageness, Ruskin is really positioning a new notion of aesthetical beauty between these two opposing tendencies.

Certainly, Ruskin is famous for describing craft as the potential to make mistakes, that is true, however, life or savageness is not expressed by mistakes only. When workmen do their work perfectly — *and most often they do* — they do it with the same vitality as when they do it imperfectly. Workmen certainly do not strive to make mistakes, nor does the Gothic strive for imperfection! When one tries to find imperfections while visiting Strasbourg or Reims, at first you cannot but think that Ruskin was out of his mind, because you cannot build in a more precise fashion than with the Strasbourg Cathedral or come up with a better notion of perfection than in

¹³ Ibid.

¹⁴ John Ruskin, *The Works*, IV, pp. 148–207. See also: *Vital Beauty: Reclaiming Aesthetics in the Tangle of Technology and Nature*, ed by Joke Brouwer, Arjen Mulder, and Lars Spuybroek (Rotterdam: V2_Publishing, 2012), pp. 156–69.

¹⁵ John Ruskin, *The Works*, XIII, pp. 236–37.

the Reims Cathedral. When you read Ruskin, however, you have to suspend this classicist notion of imperfection. Imperfection is not a perfect design where something went wrong during the execution of the work. Ruskin does not separate design from execution, and neither did the Gothic builders. In fact, stonecutters and carpenters had a certain independence in their working process. Certainly, there was design and there was an architect, but his status was very different than in modern times. Gothic cutters and carpenters were part of guilds consisting of journeymen and masters, and they controlled their own work. In that sense, the organization of the work was already savage; workers were not just part of a hierarchy but were as much part of conglomeration of guilds or cooperations. When we look, for example, at Amiens Cathedral, which is a hundred kilometres west of Reims, we see an unfamiliar kind of asymmetry, neither the full symmetry of Reims, nor the extreme asymmetry of Chartres. What happened? Simply saying something 'has gone wrong' would not explain what we are seeing here. A nineteenth-century drawing of Amiens (see fig. 1) shows the asymmetry as if it was designed beforehand, which cannot be correct: no architect in the Gothic age would draw a church as asymmetrical. It does show however that the architect was not in full control, and that design did not prescribe exactly what part should go where and in what form. Instead, the Amiens Cathedral is an occurrence, a 'vectorized' object, that is, as much an event as an object. Or, maybe better put, a thing is as much an event as an object. What allowed the two spires to be asymmetrical? Savageness did. You can understand parts of the cathedral as being drawn and highly controlled — e.g. the rose window or the entrance portal — but the asymmetry of the spires cannot be understood as having been produced from a drawing. As a consequence, Ruskin's notion of imperfection must be based on a broader notion of drawing.

In the Gothic, architects would not draw up frontal façades, sections, side façades, axonometrics, isometrics, etc., and then leave the drawings to the locals, withdraw and have them executed in his absence. The architect was one of the master masons amongst others. In Gothic architecture the building was not legalized by a set of drawings and by authorization of the architect, as it is in our age. Let us look at the famous set of sketches made by Villard de Honnecourt (see fig. 2, bottom left). We see these strange wooden templates on some of the drawings, which are actually sections of members. They could be sections of columns, of a moulding, of some profile in the building, but we will not find a section in combination with an elevation, as is normal for us. The idea of an isolated section is extraordinary; and historians have shown that identical sections can be found in different columns in different churches. Similarly, there is no complete plan in Honnecourt's sketchbook. In York Minster, we find the plan partially carved or chiselled in the stone of the wall, which means that problems were sorted out during construction and by various disciplines, not by a mastermind architect. There are different examples of Gothic cathedrals where you see parts of the drawings in full scale of the traceries or the centre lines of linear objects.

The nature of drawing is called tracery. Tracery is generally understood as a formal characteristic of Gothic architecture that we recognize from rose windows, for instance. But the term indicates the importance of the line and how the line is drawn, which can be on paper or parchment, but on stone or wood as well. It is not just the architect who draws. The stonecutters and carpenters were doing as much of the drawing; in fact, both guilds were usually very secretive about their control of the geometric tools they applied. Though Ruskin never discusses carpenters, they were in fact extremely developed in their use of stereotomy, a form of describing the geometry of complex forms in space.¹⁶ What nowadays is still called '*l'art du trait*' in French is truly a Gothic invention that quickly spread all over Northern Europe. *Trait* means as much a line drawn on paper as a mark scored in stone or scribed on wood. When Ruskin discusses his concept of savageness he often points at the independence of the sculptors doing the ornamental work on Gothic cathedrals, but such independence of the worker was omnipresent and very well organized.

When we return to the discussion of the asymmetry of the spires of Chartres and Amiens, we now understand that such are not accidents happening to a pre-established order, but *accidents happening because of an order*. A Gothic entity cannot be simply theorized as a 'body without organs', and more often the reverse is the case: organs free to assemble a body. In modernism contingency is deeply opposed to order, as we recognize the one from Pollock's drippings and the other from Mies's gridded boxes, but in the Gothic those two were not opposed: the symmetry on the base of the towers allows for the asymmetry of the spires. Or, in organizational terms: the division of work allowed for the freedom of those groups to do their work. It also means that savageness is over-spilled by changefulness, but that changefulness is limited by savageness.

The Rib

I will leave the idea of savageness aside for a while and start a discussion of the notion of *changefulness*. As Ruskin says: 'The vital principle is not the law of Knowledge, but the love of *Change*'.¹⁷ Changefulness is the second type of variation, not the rough variation of savageness, but a smooth or gradual variation, the type of variation that was extensively discussed by Hogarth and Burke when analysing beauty, and was to inspire the ideas of Charles Darwin. Although in Darwin it never becomes clear how evolutionary development driven by gradualism leads up to sudden bifurcations of the evolutionary branches, this idea of variation becomes the motor of novelty, of newness. Similarly, the following sentence forms the core of Ruskin's theory of the Gothic: 'They were capable of perpetual novelty'.¹⁸ For contemporary architects novelty is

¹⁶ Robin Evans, *The Projective Cast* (Cambridge, MA: MIT Press, 1995), pp. 185–86 and 224–35.

¹⁷ John Ruskin, *The Works*, X, p. 214.

¹⁸ *Ibid.*, p. 208.

virtually incomprehensible and is generally attributed to subjectivity. The philosophy of apriority is an architectural notion. When an architect designs an opera house for instance, his or her design is for a large part predesigned because of it being an opera house, and not a villa or a railway station. All potential newness lies with the subjectivity of the architect being able to stretch or distort the typological mould of the pre-existing.

Before we go over to Ruskin and the Gothic we should consider how architects adhering to classical convictions tend to approach a design. Novelty is suppressed, of course, because it would endanger the notion of typology itself; a church might start to look like a hotel, or worse, the reverse. But not only the whole of a building is directed by typology, also the parts, too. An architect designs with a suitcase full of elements that pre-exist the design, such that any possible novelty may only occur through the *combination* of elements, what we discussed earlier as members. Every classicist will tell you that you can only produce something new by recombining the old. For the rebuilding of London after the Great Fire in 1666, for example, Christopher Wren designed thirty churches. When you think about it, it is an amazing commission, not because of its size, but because you have to design thirty different incarnations of the same object. The worst way to approach such a problem would be to start with the first church, then proceed with the second, etc., etc. and simply hope you will finish with thirty reasonably different churches. Instead, it would be much better to design *the systemacy behind a range of churches* before you specify one, similar to Bach's approach in the *Goldberg Variations*. In modern terms, you would have to create a meta-design before you start to actually design each instantiation. First the architect designs the organization of objects and then he or she specifies and actualizes them for each different site and size. This is a powerful idea. However, for a system to spill out variations it must be based on variability, not very different from breeding dogs or roses. And classicism is deeply suspicious of variation, basically allowing only for what I call *proportional variation*. That is, elements are only allowed to vary in size in relation to other elements, and in a limited way. Therefore, Wren was not able to get past a combinatorial logic of the various elements. You can size up a column, but only by scaling up the width with it. If that does not work, then you double the column, as in the front façade of Wren's St. Paul's. You are not allowed to vary the elements themselves. Wren could not vary the shape of a circle in such a way that it would not be a circle anymore. A rounded arch needs to stay a rounded arch. You can only make it smaller or bigger, but it needs to retain the geometry of a semicircle. The actual form of the object repeats the typological notion of that object. So in the organization of form no variation is possible while it is being materialized. In short, classicism confuses organization with form; in philosophical terms, it confuses the virtual with the actual. The organization of things in classicism is always formalized; each thing attains its form as it is moulded by typology.

In Ruskin's concept of the Gothic, however, the idea of an object and its organization, the passage to reality can only occur through the creation of novelty. The column, the window,

the vault — all these ‘members’ — are not preformed. Bergson would make the same argument, but Ruskin said it fifty years earlier and a bit more precisely, because he did not merely talk about ideas, but about instrumentalizing ideas. Ideas are *machine-ideas*; they are operations and strategies. What is perpetual novelty then, exactly? What are those ‘millions of variations’¹⁹ for the traceried window, for the webbed vault, or for the compound pier? Well, the adverbs already indicate their difference from a classical element: traceried, webbed, compound. Compounded by what, webbed by what? At this point we encounter the most fundamental Gothic invention: *the element that is not an element*. What makes it even more fundamental is that it directly embodies the ‘trait’, or the score, the linear mark, a non-element we know all too well from tracery: *the linear rib*. It cannot be said loud and long enough what an incredible conception in architecture this is. When you look at a compound pier, it is in fact a bundled column: a column made as a bundle of vertical ribs. And the bundlings can be different all the time. Some of the largest ones are bundles of more than forty ribs, officially called colonettes, ‘small columns’, but they are ribs. Ribs can exist in any position: they can interlace into a vault, or weave into a window, fan out, braid, bounce, intersect, anything to make a larger element or member. They can be thick or thin, straight or curved. Though there are certainly ‘members’ in the Gothic typology of parts, a membrology would not explain what makes the Gothic so utterly unique. When we look at Ruskin’s table of piers (see fig. 3) it is almost like you are looking at snow crystals. All are different, different in size, yes, but also different combinations of ribs and combination of different amounts of ribs. The same can be seen in tracery windows. Of course we have all these styles of traceries, for example the Middle Pointed, the Flamboyant, or the Perpendicular, but it is the invention of the rib that allows the Gothic to make all windows different, and new each time they occur. More importantly, it is not merely the combination of ribs that is constantly different, but every time the ribs combine they themselves are changing. In short, the ribs are not moved by an external force (which makes them combine), but they *move internally*, which is another way of saying that they change. Therefore, the rib is the vehicle of changefulness, of smooth variation.

The rib is the most irritating element in architectural history because nobody can explain it, not the engineer, not the art historian, not the philosopher, not even the architect. Nobody can explain what it is because it is nothing, it is in itself *indeterminate*. It is not really an element, because it is far too thin to be a column and it is useless when it is part of a vault. When you would remove all the ribs from a web vault the structure would remain intact. The rib is useless, but nonetheless Gothic stonecutters spent half their time carving ribs. They deeply loved it because it forms the heart of the Gothic, that is, a world obsessed by linearity and figuration: drawing and materiality, design and craft are of the same order. When we look at the south cloister of Gloucester, for example, we can clearly see that the ribs are framing the glass, but to

¹⁹ Ibid.

simply denote the ribs as mullions would not do, since opposite the windows the identical pattern of ribs is used to articulate the stone wall. Whether it is a wall or a window is irrelevant to the patterning of ribs. They are pure articulation. This is absolutely new. In philosophy we have the choice between apriority, which means things are predetermined and preconceived, or monist pulp, according to which things emerge from of ungroundedness.²⁰ That means, we are either in a world of elements where variation becomes meaningless as in Greek elementarism, or we are in world without elements where variation makes out the substance, as in baroque stucco. But the Gothic has found a solution to that opposition. Ribs are formed but indeterminate, finite but undefined, ill-disciplined but precise. They have highly articulate profiles and exhibit configurational behaviour.

In fact, they are sub-elements, non-elements, or proto-elements: they have the exactitude of elements, but lack all definition. Sub-elements exist on the level of figures, existing in a wide range of forms. We see C-figures, S-figures (like Hogarth's serpentine line for example), O-figures, V-figures; and when we encounter growth structures we see bifurcations based on Y-figures; and sometimes structures, as with cracked glass made up of T-figures. The Gothic consists of a whole alphabet of figures. These figures are not motifs, because usually motifs are hidden in materiality. Motifs are classicist and those tend to be small, such as the meandering bands we find in a Greek or Roman frieze. Gothic figures are not motifs, because they occur on all levels of scale, on ornamental as well as structural scales. However, this alphabet of figures does not constitute a language. Art history is obsessed with language, which is a major handicap to design theory, because the symbolic does not enable any understanding of figuration techniques. Language is never instrumental, whereas with techniques you can carve and chop and chisel. A language-based theory of the Gothic would acknowledge the ogives, ogees, vaults, finials, and pinnacles all right, in short, the membrology, but not the more basic figuration of these members by ribs. All members are composed of these rib-figures. An ogive, as we understand it, consists of two J-figures, whereas the cusps you see in tracery windows are made of double S-figures.

All these figures are containers of variation, of changefulness. They are smooth, they vary gradually within themselves and incrementally from each other. You can stretch the shaft of a J-figure, but you can also keep the shaft the same length and stretch the arch. These are a-proportional variations and thus they are not classicist, in which all operations need to be proportional. The Gothic is very different because it is driven, not by proportional but by *configurational variation*. And here we come to an even more essential point of the Gothic: all the activity of the figures, all that movement, all that continuity does not spill out to deterritorialize the structure, no, it makes the figures *configure, to in fact create structure*. Though not in the way

²⁰ A reference to Schelling's concept of *Ungrund* and Deleuze's concept of the *sans-fond* as discussed in: Gilles Deleuze, *Difference and Repetition*, trans. by Paul Patton (London and New York: Continuum, 2001), p. 221.

an engineer would understand that term, as a shedding of redundancy; on the contrary, Gothic structure is created *because of redundancy*. The figures are active not for themselves but because they want to find each other. Strictly speaking, Gothic structure is a collaborative effort; again, a form of work, but an excess of work, what Ruskin terms as sacrifice.²¹ Figures configure: rose windows, netted vaults, or tracery windows are configurations. In turn, they are containers of movement, rotational, flaming, radiating, or spoked-wheel movements, but these are all configurations of the sub-movements of the figures. That is the main argument of a Ruskinian reading of the Gothic. The methodology goes from figure to configuration.

The Digital

Both the fundamental variability of all figures and their relationality make the Gothic thoroughly digital. Fairly simple behaviour by individual members resulting in complex and irreducible collective behaviour is a form of computation, which finds its most fundamental form in the digital, though not necessarily electronically. We often understand 'digital' as meaning 'electronically computed', but the speed of electrons is actually irrelevant to the notion of computing, which refers solely to the method of calculation: a stepwise procedure of iterative adjustments. Some might argue that while these relationships are indeed mathematical in nature, they are not specifically digital. And indeed, many have wondered why I found it necessary to qualify the nature of the Gothic as digital. It would not have been too difficult for me to add digital configurations in the book to illustrate the argument, but I decided against that. What I absolutely wanted to prevent was to create another book in the ANY format where a historical argument would suffice to legitimize a contemporary design solution. I have already been weary of critics comparing the contents of the Sympathy-book to my own work as an architect. While I understand that it was unavoidable, it is incorrect: I discontinued my work as an architect during the writing of the book, because I felt that with a book I could make arguments that I could not make with my work as an architect.

One of those arguments is actually the reverse of the above: most of my contemporaries in digital design have not looked precisely enough at the Gothic, nor at William Morris's elaborations of the Gothic which so strongly followed Ruskin's premonitions. The richness of figuration, the reversal of the baroque-fold argument, the inherent constructivism of configurational patterning, the equation of structure and ornament; all that has still escaped contemporary digital design. On the other hand, most scholars, especially Heideggerians like Hubert Dreyfus and Kenneth Frampton, still understand computers as anti-hands, as mechanical devices that can only calculate what is programmed beforehand, that is, as determinist machines. But computers are anything but clockworks driven by linear functions. Sure, they calculate with

²¹ John Ruskin, *The Works*, XVII, pp. 25–42.

incredible precision, *but with floating and flexible numbers*. It is a clockwork made up of rubber cogs and wheels, where relations can stretch and shift from linear to squared functions and further, in short, where nothing is predictable and where redundancy rules.

The digital argument therefore should be understood as parallel to the vitalist argument, and like Deleuze's notion of the machinic, vitalism is not a form of organicism, where wholes are predetermined, but a mixture of the mechanical and the organic. Whitehead, though not a vitalist, called this an 'organic mechanism' in his 1925 *Science and the Modern World*;²² a philosophy that merges mechanical atomism with organic continuity. I think most digital architecture of today is still wholly in the grip of mere continuity, of what Patrik Schumacher calls 'parametricism',²³ which is nothing but baroque isomorphism, or continuous variation. The absolute danger of continuous variation lies in its inherent, Catholic universalism. Parametricists simply miss out on the roughness and savageness, and remain in the grip of digital stucco. The problem of parametricism is that it lacks the constructivism of configurationality. It cannot create its own thresholds; it merely keeps on folding and stretching without creating its own channels and obstacles, what Wilhelm Worringer so aptly calls the 'form problems' of the Gothic. Though the initial variation of changefulness is parametric, it needs to self-stop by hitting into savage obstacles, making things independent and autonomous, and allowing them to break away from continuity. There exists continuity, yes, but only to create discontinuities, discretenesses — in short, what we call *things*.

We are not dealing with vaults or columns, but with textile processes of bundling, interlacing, and weaving that are transferred to stone. Flexibility, a textile notion, allows things to emerge, not out of the ungrounded, but out of a world of things that are highly formed but wholly indeterminate. Flexibility of behaviour enables things to create new things that are larger in scale. Reading Worringer through Ruskin's eyes, the notion of *vitalized geometry*²⁴ — to which Deleuze never ceases to refer — suddenly becomes a very precise description. And let me make immediately clear that the apparent paradox of *lebendige Geometrie* should be read in parallel to Whitehead's organic mechanism. Both Ruskin and Worringer read the idea of vitalized geometry more in ornament than in the larger objects of the Gothic. The latter derived this idea from Karl Lamprecht, the author of *Initial-Ornamentik des VIII. Bis XIII. Jahrhunderts* (1882) — an amazing book on Gothic illumination — which deals mostly with small objects like initials in books, clasps, or very small ornaments of everyday objects, all organized by this vitalized geometry.

Ruskin was particularly interested in the intricacy of evolution in Northern design, which we know so well from the fantastic early eighth-century designs of the Lindisfarne Gospels (see

²² Alfred North Whitehead, *Science and the Modern World* (New York: Pelican Mentor Books, 1948), p. 81.

²³ Patrik Schumacher, *The Autopoiesis of Architecture: A New Framework for Architecture* (London: Wiley, 2010).

²⁴ Wilhelm Worringer, *Form in Gothic* (New York: Schocken, 1964), p. 41.

fig. 4) or the Book of Kells. Ruskin discovers this notion of the woven band and the intricate system of bands equally in Indian, Arabian, Egyptian, and Byzantine design as in that of Norway and Ireland and even in that of Greece. The question that we should raise is simple: How can a drawing such as an initial on a Bible page be woven and knotted? Are knotting and weaving not unique to material strands? And how about the braiding in a stone capital of a Byzantine column? Again, everything comes down to the materiality of the drawing, to the *trait* and the tracery. In Byzantine braiding, in Celtic knotwork, and in Gothic interlacing the flexibility of non-elements (bands, strips, ribs) computes the form while it is drawn and while it is carved. The idea of braiding your hair or plaiting leather bands is what I called a ‘machine-idea’ before, an operational idea, an idea that takes on form while it is executed based on procedural rules. Therefore the textility can be as easily transferred to stone or ink as to hair and yarn. The materiality of the line is one where lines configure, where the lines are drawn in concert, not being drawn by hand one after the other. *A line draws itself in relation to another line*, a line is not drawn because of the hand that draws it — that is just authorship and authority. Here the lines rule over one another. Keep in mind that lines are rulers. We weave, we interlace, before we draw and then we carve it out. When we look at a Celtic cross, designed in intricate knotwork and carved from stone, the issue is not merely the flexibility of the curving threads, it is also how the rigidity of the configuration coincides with the stone. The stoppage of the configuring meets its materiality, but only by the transfer from the technique of weaving to that of carving. Therefore, the operational idea is that of transformation, from figure to configuration as well as from textile to stone.

Ruskin offers us a notion of craft that merges with design. It is not a notion of Arts and Crafts where design is still followed by craft. Instead, he offers us a notion of crafting, of weaving, interlacing, bundling, plaiting — in short, of a flexible materiality that exists on the level of drawing and design. In Ruskin we find an idea of work that is not just in the workmen but in the members and (sub-)elements themselves. The drawing is done by many hands simultaneously, as a collaborative and cooperative effort, and I think there is no better description of computing. In the Sympathy-book I refer to the summer of 1853 when Ruskin was on holiday in Scotland with John Everett Millais. Ruskin spends evenings with Millais discussing his notion of the Gothic, to which Millais makes a few drawings, most of them very small but one in particular Millais some months later enlarged to a huge format (see fig. 5). In those few drawings Millais made of the new Gothic — and we are now getting closer to a Gothic ontology — we see the notion of collaboration and of things being active, of labour being part of things. Not just labour, but collaboration. Instead of ribs touching and interlacing, Millais drew angels kissing and holding hands. Things — thing-ribs, thing-fibres, thing-threads — hold hands and while they hold hands they build formations. When Ruskin, in his forties, became interested in political economy and wrote *Munera Pulveris* and *Unto this Last*, he was giving an aesthetic critique of society. Ruskin is not a Marxist, since he has an aesthetic concept of collaboration. Mereologically

speaking, things make larger entities because they feel for each other. And even though Morris later adhered to Marxism, I think he always remained loyal to this notion of Aesthetic Socialism. For Ruskin and Morris the social was an aesthetic act, not the reverse. Aesthetics precedes all, ethics as well as philosophy. All being is derived from aesthetics, and therefore we need to add the word 'Gothic' to that of 'ontology'. Whereas there are different styles of being, no being can ever be without style. Style is merely the collective agreement to *what* things feel for one another, however, the fact *that* they feel is primary.

We can now understand savageness as something that does not pre-exist changefulness, but emerges from it. There are pools or reservoirs of variation, containers of gradualism that exhaust themselves, after which things break. Similar to Darwin's notion of species, each entity can only contain so much variation, after that a break or bifurcation necessarily follows. A thing varies until it cannot extend itself any longer by variation. Savageness, in other words, is a notion of growth. A thing does not scale up by adding elements; rather, there are internal cuts, internal fractures. So, to go back to Darwin's gradualism, we now need to add its enemy *saltationism* to the notions of development and growth. Nature does jump, but only after it has been stretched to the limit. And nothing that grows, neither individuals nor species, can grow without self-segmentation. A thing cannot simply scale up (by continuity), it needs to break up and reorganize continuity into segments. In living bodies, this procedure is called limb formation. Let's compare the Bourges Cathedral to the Salisbury Cathedral, for instance (see fig. 6). If we would script this by digital means, we would see that both are produced by the same operational idea, i.e. algorithm. The procedure starts with bundled columns that weave into vaults, which copy lengthwise into a nave that doubles into aisles on both sides, then creates transepts to conclude with a Lady Chapel and an apse. From an operational and digital viewpoint, this is an iterative and incremental way of occupying a site. One could even call it strategic. The algorithm is strategic, but the implementation needs tactics. Each operation can only go so far as the site allows. When you compare the site around Salisbury to the site around Bourges you see how the script is checked by its environment. While Bourges is in the middle of the city, Salisbury is surrounded by open grassland. Because of this, Salisbury produces two transepts, while Bourges has no transepts at all. Savageness is thus an organizer of changefulness. It is a biological concept of growth that shows us that things not merely scale up, but are organized by internal increments. The body is made by organs and the body cannot do without organs.

Vitality

The third characteristic of Ruskin's list that I want to discuss is *rigidity*. Ruskin is of course notorious amongst scholars for his lack of knowledge of structural issues. There exists hardly any notion of three-dimensionality in Ruskin's discussion of the Gothic, which is problematic because the concept of the configurational and how it guides growth is a growth within and of

dimensions. He nonetheless uses a very interesting term: 'active rigidity'. Active rigidity is what he calls 'the peculiar energy that gives tension to movement and stiffness to resistance'.²⁵ Generally, engineers understand a structure as stable by being in rest, which is similar to the aesthetic notion of a form being in balance. What is particularly interesting about Ruskin, is that he is not denying the notion of rigidity. He is not saying 'all is movement'; the usual comment on the baroque. He is going much further. Ruskin is saying that rigidity is a form of action. Every dancer knows how difficult it is to stand still, and if we would put sensors in every beam and column of a building and translate the stresses and strain into sounds we would hear a deafening squeaking and screaming. *Standing still is work*; Ruskin calls this 'life'. Rigidity then, should be understood in the framework of configurationalism, as having movement and activity on the level of the figure and togetherness, and rigidity on the higher-scale level of the configuration. Rigidity is not a form of rest. The ribs come together to create a rigid structure, but when the object is rigid, this does not mean that the ribs are no longer active; *the ribs are hard at work*. I think this is essential. We always think activity is followed by stability, but the ribs remain active, even when the structure is finished. Ruskin wilfully conflates becoming and being. The activity that makes a thing into being is continuous with the activity that makes it persist as well as the activity that makes it perish.

Again, let us compare the Gothic to classicism in this respect. In Palladio we see geometry, but to make it alive, in other words, to make it possible to have feelings for and empathize with the object, it needs to be decorated with leaves, with garlands and cherubs, in short, with various instantiations from living nature. They are positioned onto the structure, often on the joints, while the structure remains for what it is. In classicism, to correct the abstract nature of the structure architects add imitations of life. Just to make this absolutely clear, I have used Worringer's terminology: empathy is literally added onto abstraction. That same Worringer comprehended that the Gothic takes on a very different position with its vitalized geometry. Indeed, it reverses the classical stance. Vitalized geometry means life is already in the geometry. The elements of geometry are not like a gridded order that is then decorated afterwards; they are themselves bundling and interlacing, forming a structure while doing so. *Structure is a product of life*. And structure is not the realm of engineers, of pure elementarism, it is the realm of the configurational, a realm that produces ornament as well as structure. Life is in the elements themselves and, while they are alive, they produce structure. The webbed vault must be seen as a structure as much as an ornament. You find this in the Gothic at all scale levels. In the Gothic you may find large ornaments and small structures. Fences often look like small structures while vaults look like enormous ornaments.

The idea of a vitalized geometry goes directly against Alberti's notion of how to make

²⁵ John Ruskin, *The Works*, X, p. 239.

structures beautiful. According to Leon Battista Alberti, *pulchritudo* and *ornamentum* come on top of structure.²⁶ First you have the structure, then comes the process of beautifying it. In the Gothic, beauty is already in the figures, it precedes structure. Life is the urge for composition and the striving for configuration, which is remarkably close to Whitehead's remark that beauty is the teleology of the universe.²⁷ Therefore, in the Gothic we cannot distinguish beauty from utility; beauty is a beauty that works. Things are active, they work, and while they do so they come together and produce structure. This means that structure, the becoming of things, is a result of beauty: things feel for each other and that brings them together.

Ruskin's concept of active rigidity should be compared to with that of Eugène Viollet-le-Duc, who is as strong a proponent of the Gothic as Ruskin, but unlike him always celebrated as a pioneer of modernism. In the Sympathy-book I compared the south cloisters of the Gloucester Cathedral to Viollet-le-Duc's iron-masonry structure that is one of his reworkings of the Gothic. In Gloucester all (non)elements — ribs — collaborate without losing their indeterminacy. Their figural articulation is more important than their structural role. Strangely enough, ribs look like they are structural and many engineers have tried to define them as such, but they are essentially indeterminate: you cannot define them through forces of either compression or tension. Looking at Viollet-le-Duc's structure, one can clearly observe what the goal of his design is: a cleansing of the Gothic by making every element determinate; being an element either in tension or in compression. Certainly, this cleansing of the Gothic is a precursor to modernism, because it is characterized by the same determinist transparency, based on a *geometry without vitalization*, and consisting of purified abstraction.

The Indeterminacy of Actual Things

In the first chapter of the Sympathy-book, 'The Digital Nature of Gothic', I argue that we may compare Ruskin's notions of figure and configuration to the difference engine of Charles Babbage, a contemporary of Ruskin. Babbage not only built the first computer, he was also a cultural critic who wrote a 300-page critique of The Great Exhibition of 1851, in which he looked at industrial and design objects from his computational viewpoint.²⁸ The idea of computing, he argues, is to make complexity a configuration of simple tasks. Each complex collaboration of labour can be divided up into very small, simple tasks, an operation which adheres to the so-called division of labour. While Babbage is correct in the case of computing, and in how complexity is generated, for him this means that cultural products need to be pure copies of precision.²⁹ This is of course a horror to Ruskin. Even if Babbage understood the notion

²⁶ Leon Battista Alberti, *On the Art of Building in Ten Books* (Cambridge, MA: MIT Press, 1988), p. 154.

²⁷ Alfred North Whitehead, *Adventure of Ideas* (New York: The Free Press, 1967), p. 265: 'The teleology of the universe is directed to the production of beauty'.

²⁸ Charles Babbage, *The Exposition of 1851* (London: John Murray, 1851), p. 49.

²⁹ *Ibid.*

of complexity on the level of labour, he did not understand it as driven by variation. In Ruskin's terms, one could say Babbage understood savageness as purged of changefulness, which again leads to purified abstraction. The collectivity of labour is described as incremental, but the increments are not allowed to vary, and the concept of the sheer copying of each task reveals a misunderstanding of his own notion of computing. In that sense my view of the nature of Gothic as digital combines Ruskin's ideas of labour as a free hand with Babbage's idea of iteration of simple tasks. The notions of repetition and seriality are crucial to the Gothic — another characteristic that distinguishes it from contemporary digital design — but it should be conceived mainly as a rhythmic repetition that enables variation instead of sameness.

Marvin Minsky, the inventor of artificial intelligence, formulated what was later called the Bird's Nest Problem:

Nobody ever tried to make a computer that can build a bird's nest, instead they're all out there in factories assembling motors. People say, oh yes, the bird gets straws and it sticks them in the nest and glues them in. But a motor is designed to be put together. The debris lying around on the floor of a forest isn't designed to be made into nests.³⁰

Again, this is about drawing. A bird's nest cannot be drawn before it is made, because it is made of parts that are ill defined, but at the same time they exhibit the same linearity as ribs, giving the final nest the quality of a drawing. There is indeterminacy around the parts that allows them to be knitted, interlaced, stacked, depending on their own shape as well as that of their neighbours. Each twig brings in an indeterminacy that is at its largest when lying on the forest floor as waste material, and step by step it sacrifices some of that indeterminacy while it is placed in the nest with other twigs. The definition of the object is produced while the parts are being woven, stacked, or interlaced with others. This is pure Gothic ontology. There is indeterminacy, but not in the sense of a generalized groundlessness, rather it is an indeterminacy that is related to actually existing things. These things are enveloped in indeterminacy that enables them to interact with others to configure into larger entities that are more determinate, though never in a purified, cleaned-out state. The fact that the bird puts them together is irrelevant in my mind. It is the intelligence of the twigs that makes them cohere into a Gothic entity: it is their sacrifice, their generosity that makes it work. In Gothic ontology all things are linear, or as Denis Diderot would say, made of fibres and strings,³¹ and all fibres are vehicles of what in Diderot's time was called

³⁰ Marvin Minsky quoted by James Gleick in: 'Exploring the Labyrinths of the Mind', *New York Times Magazine*, 21 August 1983.

³¹ Denis Diderot, *Rameau's Nephew and D'Alembert's Dream* (London: Penguin Classics, 1976), pp. 156 and 170: '[I]t has led me sometimes to compare our organic fibres with sensitive vibrating strings. A sensitive vibrating string oscillates and resonates a long time after one has plucked it. It's this oscillation, this sort of inevitable resonance, which holds the present object, while our understanding is busy with the quality which is appropriate to it. But vibrating strings have yet another property — it's one that makes other strings quiver [...] All our organs [...] are only distinct

'sensibility and irritability'.³² The Gothic universe is a nervous world, made of sinews and tendons, not of hard skeletons or soft flesh, i.e. not of Greek skeletons or baroque flesh. The smallest dimension of things is linearity, not the point-monads of Gottfried Leibniz or the black boxes of Bruno Latour. We are now slowly moving towards my anti-baroque, anti-fold argument. I think the notion of the fold did enormous damage to the argument for digital design, especially when taking on the form of parametricism. The inherent a-materiality of it, the structuring afterwards, the lack of form, the lack of internal thresholds, the lack of repetitive patterns, the lack of colour, the universalism thriving on globalism, and, worse, the lack of pattern and ornament — I can go on and on and on.

When I started writing the Sympathy-book, I was still happily reading Deleuze, but the more I proceeded the more I moved away from him. The main reason for this is that in the baroque the notion of movement, i.e. that of the fold or singularity, comes after structure. When we look at a typical baroque interior we see in fact nothing but a distorted classicism, which shows us the weaknesses of monism. Everything is already there, and the movement that creates the folds is added later. The folds occur afterwards, in a universe that is already structured. According to Deleuze in *The Fold: Leibniz and the Baroque* (1988), a fold is a singularity on the plane of immanence. When we use a piece of paper to enact the plane of immanence and we fold it, which necessarily takes on the form of a line, be it a sharp crease or a rounded pleat, that line is dependent on the two-dimensionality of the paper surface. The plane of immanence thus precedes the foldings, that is, the structure precedes the movement. Gothic ribs are the reverse, they are liberated folds in a sense; linearities as singular objects that are allowed to collaborate to create larger dimensional entities, but also to disengage from larger entities. In the Deleuzian world of the fold, continuity always precedes singularity, while in the Gothic rib world, entities precede continuity. In the Gothic the movement of the ribs in fact creates structures. Generally, in philosophy we acknowledge two types of worlds, one of pluralism where entities (atoms) are allowed to move, but while they move they cannot change — what we often denote with the 'billiard ball universe'. The other world of monism allows things to change but they cannot move, because they are necessarily caught in the larger structure of the plane of immanence. In a monist world things cannot disengage, which means there is change, but no real movement. In atomism there is of course movement, but there cannot be real change since things are controlled by essences and substance. Gothic ontology can cope with both movement and change: there is internal change and external movement. Gothic ontology combines the internalism of the fold with the externalism of atoms. The rib can flex and twist while at the same time move and connect.

animals kept by the law of continuity in a state of general sympathy, unity, identity'.

³² Albrecht von Haller, 'A Dissertation of the Sensible and Irritable Parts of Animals' [1752], *Bulletin of the History of Medicine*, 4 (1936), 651–99.

We should now start to look a bit more precisely at what such internalism actually entails. What is it exactly that makes things change, or take on form, which is nothing but another way of saying that things act. In contemporary theories of agency such as Actor Network Theory the concept of action is given, plus the fact that such actions build networks, which overlaps considerably with configurationalism — however, such theories do not explain how things act, or why they feel the need to collaborate.

Sympathy

In order to answer that question we should take a look at a typical Gothic object. In *The Sympathy of Things* I use an example from Ernst Gombrich's book *The Sense of Order* (see fig. 7).³³ We are looking at a typical iron hinge, with all the Gothic complexity of Y-figures and J-figures, that is, in classic terms, bifurcations and scrolls. How should we understand this object? Not very differently from how Gothic vaults, columns, or rose windows are made by ribs: from figures interacting into configurations, that is, a sequential step-by-step procedure of transformations — another argument to denote the nature of the Gothic as digital. Again, this involves a kind of twelfth-century computing. We have the surface of the door, which is two-dimensional, and we have a one-dimensional, linear hinge that needs to distribute itself over that two-dimensional plane. The generation of the hinge configuration starts as a simple line but to become a surface, to imitate a surface, it needs to bifurcate, split, and curl over the surface, all the while retaining continuity as a line. Why is that? Firstly, because the hinge is too weak to carry the door and needs to spread itself over the surface to mitigate tension. Secondly, because the hinge needs to occupy the surface area *as a line*, therefore, it can only do so by applying the strategy of forking paths. The hinge uses Y-figures, C-figures, J-figures; as is typical of the Gothic we see sets of figures that configure to make this object. The object is under way, or as Bergson would say, 'in the making'; it is under construction towards two-dimensionality. It is not a pure surface, but it is not a pure line either. Looking at this object with the help of fractal geometry you realize that it is literally between dimensions. If you would try to mathematically define the dimensionality of this hinge, you would find it is something like 1.26, a number in between one and two. The hinge stretches over two-dimensionality but it never becomes fully two-dimensional.

How do we perceive this kind of transitory object? Simply saying we 'see' such an object will not suffice, because it is in transit from one dimension to another, and our understanding of perception needs to include such a transition. The classic definition of seeing, namely (re)cognizing it by cutting the object from its background and tracing its contour, does not apply in this case. The Gothic hinge can be compared to, say, a tree or a set of trails: created over time the object in its present condition still shows those paths from the past that created it. Even

³³ Ernst Gombrich, *The Sense of Order* (London: Phaidon, 2006), p. 165. The original is from: John Starkie Gardner, *Ironwork, Part I* (London: Chapman and Hall, 1893), p. 63.

though the objects might have stopped developing or growing they exist in time as much as in space. Therefore, perception as a mere seeing cannot be enough, because the thing is as much a path in time as an object in space. Seeing needs to be extended by feeling to complete the experience, where the seeing part covers the spatial condition and feeling the temporal one. Though not just feeling, but rather what Whitehead calls ‘the feeling of feeling’, namely *sympathy*.³⁴ But first, what is feeling?

In short, I would say feeling is what allows things to switch from the continuity of time to the discreteness of space. Feeling orients things, be it through form, through transformation, or through action, since action is nothing but the changing of form. Stretch out your hand and you will notice that you change form. Now, we cannot stretch out our hands without feeling; the body as a whole needs to jump from the continuity of the experience of the self to the actuality of acting in space. Such stretching out of the hand could be the greeting of another person, the picking of a cup from the shelf, or the pointing at a painting on the wall. The same ‘form of transformation’ goes for static objects such as a tree or a Gothic hinge, or a Gothic vault, for that matter. Things act, and that means all forms are transformations, and all transformations are felt. The form is not an expression of that feeling — again, I am not arguing for language or semiotics — feeling and form coexist by a jerking and jolting of movement and stoppage, which is as good a description of Gothic ontology as I can give. Then again, what happens when we look at such an object? Why is it sympathy, and what exactly does the ‘sym’ denote? It is more than mere correspondence, even more than adaptation: it is a form of mimesis. The feeling of feeling inheres that feeling imitates; there occurs *an internal mimesis* by our feelings of the feelings of objects. How things orient in space is aligned with (or attuned to) how we orient in space; it is really an effect of harmonizing and deeply rooted in the notion of beauty. The feeling of feeling allows us to be as different as possible from others and still aesthetically (etymologically rooted in the term ‘feeling’) resonate with them. It is not mere naturalism, i.e. external mimesis: the hinge does not ‘look like’ the door, and we do not look like the hinge when we look at it. But, the hinge ‘likes’ the door and we like what we see. The hinge mimics the flatness of the door in an iron-like fashion, while we mimic the hinge in the us-like fashion.

This concept of *dissimilar mimesis* lies at the conceptual core of sympathy. Therefore, to discredit sympathy as a form of sentiment or identification is a complete misunderstanding of what occurs during the act of sympathy. In *Creative Evolution* Bergson gives a poignant example of such an asymmetry of form and sentiment.³⁵ He takes the example from the eminent entomologist, Jean-Henri Fabre, who described how the *Ammophila* wasp stings a caterpillar with nine specific stings. The wasp does this to paralyze the caterpillar, drag it to his nest, and

³⁴ Alfred North Whitehead, *Process and Reality* (New York: Free Press, 1978), p. 162. And: Charles Hartshorne, ‘Mind and Body: Organic Sympathy’, in *Beyond Humanism: Essays in the New Philosophy of Nature* (Chicago: Willet, Clark and Co., 1937).

³⁵ Henri Bergson, *Creative Evolution* (Mineola, NY: Dover, 1998), p. 173.

feed its offspring with the living pray. How does the wasp know where to sting the caterpillar? Does the wasp make use of knowledge or instinct? The first would be highly problematic, since knowledge invokes a form of symbolic mapping mobilized by cognition. If it cannot be knowledge or intelligence then it must be instinct, which would be the standard answer of evolutionary biologists such as Richard Dawkins. According to such thinking, when we cannot explain an animal's behaviour on a conceptual level, then evolution must have hardwired the creature to solve its problems. But, according to Bergson, the wasp's actions cannot be based on instinct either, because the characteristics (size, motion) of the caterpillar are always different, as well as the circumstances under which it is caught. There is so much variation that you cannot automate it, at least not by determinist hardwiring. Bergson argues that there must be something in between these two positions, between knowledge, which allows you to vary on symbols, and instinct, which says the behaviour of the wasp is hardwired. This in-between is what Bergson calls 'intuition'. And, when Bergson explains intuition he often refers to the notion of sympathy.

Let me clarify one thing before I proceed. When writing a book on sympathy I could have approached the topic from a completely different angle. I could have started with primitive magic, what James Frazer called 'sympathetic magic', proceed with the ancient Greeks and their concept of the universe as an animal's body, relating all things through *sympatheia*, making it an argument for organicism. We would then encounter the concept with the Stoics, such as Chrysippus and Posidonius, then move forwards to Hume and Smith who would speak of fellow-feeling, maybe discuss Kepler's 'sympathy of things' and Huygens's 'sympathy of clocks' (very close to resonance), neatly distinguishing one from the other. We would end with Whitehead's and Hartshorne's concepts of sympathy, slowly trying to disentangle it from organicism and giving it an exclusive status, while preventing it to become psychologized as in Scheler and Stein. This, I think, would have been a mistake. I would have encountered enormous difficulties in establishing the aesthetic basis of the concept, and would hardly have been able to make the argument for 'aesthetics as first philosophy'.³⁶ It is no accident that philosophers, when discussing sympathy in a conceptual manner, often do so by quickly shifting to aesthetic examples. Hume speaks of the audience in a theatre vibrating like strings³⁷ with the emotions of the actors. Bergson speaks of the painter doing a portrait and only being capable of painting it 'by a kind of sympathy, by breaking down [...] the barrier that space puts up between him and his model'.³⁸ In a similar vein, there must be some kind of mapping of the movements of the caterpillar onto the body of the wasp, even if the latter is a completely different body. The wasp does not 'look like' the caterpillar, but he nonetheless imitates it, and this imitation is an internal imitation that

³⁶ Graham Harman, 'Aesthetics as First Philosophy: Levinas and the Non-Human', *Naked Punch*, 9 (2007), 21–30. The formula had been used before 2007 by others, and also in the context of Levinas, such as by Kevin J. Vanhoozer in *First Theology* (Downers Grove, IL: IVP Academic, 2002), p. 21.

³⁷ David Hume, *Treatise on Human Nature* (London: J.M. Dent & Sons, [1739] 1911), III: p. 299.

³⁸ Henri Bergson, *Creative Evolution* (New York: Dover Publications, [orig. English translation 1911] 1998), p. 177.

proceeds by way of sympathy, not unlike the procedure of an actor at work.

We should realize that when Bergson speaks of the *Ammophila* wasp (or the painter) 'being transported into the interior of an object',³⁹ this is quite literally quoted from German aesthetic theory, where it was termed as *Einfühlung*. This term, which means 'feeling-into' and is directly related to the 'feeling-with' of sympathy, was used very early in an aesthetic context by Johann Gottfried Herder in the late 1770s when discussing the relationship of an onlooker to a sculpture.⁴⁰ Later during the nineteenth century it was developed by Theodor Vischer and more precisely defined in the 1870s by his son Robert Vischer who wrote his thesis on the subject.⁴¹ However, Bergson seems more influenced by the psychologist Theodor Lipps, who in fact speaks of *innere Nachahmung*, the term which is truly central to our discussion.⁴² Lipps deserves serious rereading. His argumentation is without exception of an aesthetic nature: all our perceptions are driven by internal imitation. What makes Lipps even more important to our discussion is that he uses the term 'sympathy' as synonym for *Einfühlung*, while later the Americans and English agreed on the term 'empathy' as a translation.⁴³ It becomes clear from reading Lipps that 'empathy' leads to a flawed notion of *Einfühlung*. Why is that important? When we use Worringer's understanding of the term we see that for the latter *Einfühlung* is opposed to abstraction, as we find it in his famous thesis *Abstraktion und Einfühlung*. That, however, is a misunderstanding by Worringer of Lipps's work. Worringer was as much influenced by Alois Riegl as he was by Lipps, and he re-categorized *Einfühlung* as naturalism, that is, as *external mimesis*, and external mimesis fits with the English notion of empathy, but not with sympathy. Lipps's examples of *Einfühlung*, what he often calls *Sympathie* in German, are without exception mixtures of abstraction and naturalism. And they must be, because they concern disparate bodies synchronizing through feeling.

Lipps always gives many examples in his texts, but we can easily distinguish them in different categories. First there are the examples of similar bodies sympathizing, one moving and the other being still. Second, we find examples of dissimilar bodies sympathizing, again one moving and the other still. Then, thirdly, we find examples of dissimilar bodies sympathizing, while both being still. All of these examples concern sympathizing through internal mimesis, and all of them concern the calibration of a body's existence in time with its presence in space. Therefore, the notion of sympathy equates time-events with space-objects as much as it does

³⁹ Henri Bergson, *Creative Mind: An Introduction to Metaphysics* (New York: Citadel Press, [1903] 1946), p. 161.

⁴⁰ Johann Gottfried Herder, *Sculpture: Some Observations on Shape and Form from Pygmalion's Creative Dream* (Chicago and London: Chicago University Press, [1778] 2002), p. 78: 'The more a part of the body signifies what it should signify, the more beautiful it is; inner sympathy alone, feeling and the transposition of our entire human self into the figure we touch, is the true teacher and instrument of beauty'.

⁴¹ Robert Vischer, 'On the Optical Sense of Form: A Contribution to Aesthetics', in *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893*, ed. by Harry Francis Mallgrave and Eleftherios Ikononou (Santa Monica: Getty Center Publications, 1994), pp. 89–123.

⁴² Theodor Lipps, 'Empathy, Inner Imitation, and Sense-Feelings', in *A Modern Book of Esthetics: An Anthology*, ed by Melvin Rader (New York: Holt, Rhinehart and Winston, 1979), pp. 371–77.

⁴³ Edward B. Titchener, *Lectures on the Experimental Psychology of the Thought-Processes* (New York: Macmillan, 1909).

movement and stoppage. As an example of the first category his tightrope walker is the most famous.⁴⁴ When I observe a circus performer on a high wire I feel like I am inside his or her body. I am not looking at the performer but I am actually with him or her. There is a collapse of space. I look at the performer but seeing in itself does not explain what actually happens. There is something more going on than just seeing and this something more is an immediate feeling that prepares your body, charging your muscles for action. Sympathy, in other words, is a postural and proprioceptive notion. When I look at the performer on the high wire, there is a closeness between my body and his or her body, just as there is between the body of the wasp and the body of the caterpillar, but those bodies are still disparate and different.

For the second category Lipps offers the example of feelings of rage provoked by looking at a willow tree in the storm.⁴⁵ Clearly you do not feel rage because the willow is angry, but because there is a transposition of movement from one body to another. My body imitates the movement of the willow, which is felt by my body as rage. There is a resonance between my body and the body of the willow. What the willow feels, I do not know, but it does feel something because it moves in the wind and I resonate with it, even if I am only resonated by the feeling of rage. This is what Lipps calls *Einfühlung*, but it clearly goes further than a feeling-into, it is a feeling-with, which he acknowledges by using the synonym of sympathy, but it has been the source of the later misapprehensions. I think Worringer's concept of the Gothic as a mixture of abstraction (geometry) and naturalism (vitality) would have been fully confirmed by Lipps, but I also think that Lipps would have told Worringer that all our perceptions are of such nature. In that sense, Lipps was closer to the notion of a Gothic ontology because for him it was not a choice, but the fundamental way things relate to one another.

This brings us to the third category, the sympathizing between forms, without actual motion playing a role. For instance, what happens when we look at a column⁴⁶ or the spiral of a shell⁴⁷ or the horn of an antelope? The *actual path* of movement — the high wire, the movement of the willow — now becomes the *memorized trace* of a movement — the column rising up, the horn twisting. Reading Lipps, it becomes immediately clear we should not make a qualitative distinction between actual and memorized movement, that is, in our Gothic ontology, between movement and structure. In short, Lipps unwittingly uses Ruskin's concept of active rigidity. Concrete bodies that encounter one another can only do so via a sheet of abstraction. The wasp only finds nine points on the body of the caterpillar. The hinge finds only so many points on the flat plane of the door as to bifurcate and spread out. When I sit on a rock because I am tired I use

⁴⁴ Theodor Lipps, 'Empathy'.

⁴⁵ Theodor Lipps, 'Die aesthetische Betrachtung und die bildende Kunst', *Ästhetik: Psychologie des Schönen und der Kunst*, vol. 2 (Hamburg und Leipzig: Leopold Voss, 1906), p. 1.

⁴⁶ Theodor Lipps, *Raumaesthetik* (Amsterdam: E. J. Bonset, [1897] 1966), as translated by Gustav Jahoda in: 'Theodor Lipps and the Shift from "Sympathy" to "Empathy"', *Journal of the History of the Behavioral Sciences*, vol. 41, 2 (Spring 2005), 151–63 (p. 157).

⁴⁷ Theodor Lipps, *Raumaesthetik*, as translated by Vernon Lee in: *Beauty and Ugliness* (London: John Lane, 1912), p. 35.

only a few points on the shape of the rock to adapt my body in the shape of sitting. It is always the same: concrete bodies, disparate and dissimilar bodies, adapt by feeling, by restructuring their bodies and their postures so they fit with one another, but only at a few points. Not to look like each other, but to feel like each other. Therefore, using Worringer's terms, we should state that *sympathy is empathy merged with abstraction*, a formula we can find in various forms in Lipps, Whitehead, Bergson, and Ruskin. Empathy leads us into bodies, and when we are in that body we can abstractly adapt and take on form. Empathy is the first stage of sympathy, and abstraction the final stage: the actual act of mimesis.

Gothic ontology teaches us that the real extends itself by mirroring: things reflect one another, and reflect one another internally, that is sympathetically, through the 'imitation of the affects'.⁴⁸ Mimesis (representation), copying (reproduction), mimicry (play), reflection (consciousness), mirroring (pattern), symmetry (form) — all machinations of the real. The mimetic act of one body internalizing another body is nothing but one body extending itself: *mimesis equals prosthesis*, and vice versa. The reason why I prefer the term 'feeling' over 'affect' is precisely because of the prosthetic connotations of the former. Not only as receptive and absorptive as affect, feeling also moves outwards and touches, points, caresses, strikes, and grabs. 'I feel' means as much that stuff enters your body through mimesis as it means that you are extended and prosthetically stretched out over other things in order to encapsulate them. Pet your dog and warm yourself to its coat; prick your fork into a steak and swallow it. What is not pleasure and what is not extension? When children play in playgrounds, when actors play in theatres, when architects make models in studios, they are not contractively absorbing the real on the stage of illusion, no, they are working at the factories of the real, expansively spilling and multiplying it by reproduction. There are no illusions, just likings and likenesses.

⁴⁸ Spinoza, *Ethics*, IIIp27, IIIp49, and IIIp33. We should add an extra comment on Deleuze's notion of affect. Obviously, when imagining being French, we can see how useless the word 'sentiment' appears as technical terminology, stressing the role of the senses over the body as a whole, and Deleuze soon decided in favor of Spinoza's use of the word 'affect' (*Ethics*, Part III). However, in English, Dutch, and German, the related words for feeling are of great use, and it is truly a pity the Anglophone world so rashly adopted Deleuzian affect. Feeling and *Gefühl* have a much broader history and a more complicated etymology that far exceeds that of the Latinate affect. On top of that, we should keep in mind that the body's capacity 'to affect and to be affected' was specifically meant by Spinoza as an 'imitation of the affects', a meaning completely lost in Deleuze and DeLanda, who always consider feelings reciprocal at best.