

x y z

Opening: a hymn to synaesthesia:

To Music

Music: breathing of statues. Perhaps:
silence of paintings. You language where all language
ends. You time
standing vertically on the motion of mortal hearts.
Feelings for whom? Oh you the transformation
of feelings into what?-:into audible landscape.
You stranger: music. You heart-space
grown out of us. The deepest space *in* us,
which, rising above us, forces its way out,-
holy departure:
when the innermost point in us stands
outside, as the most practised distance, as the other
side of the air:
pure,
boundless,
no longer habitable.

Rainer Maria Rilke

Introductory

The contention of this paper is that the image of architecture, as with the image in general in aesthetics, has become *flattened* by the effects of digitalisation and the development of Computer Aided Design. In the context of the contemporary western condition of image-saturation, architecture theory is particularly guilty of offering little by way of challenging how images are embedded within the *Lebenswelt* and within practice. The situation has degraded to the extent that the image has come to compete with the object of architecture itself, in some cases displacing built-form to the order of a derivative series. The effects of this on the practice of architecture are that a *neo-formalism* remains dominant, to the detriment of the other formants of the

architectural: function, ecology, site, materials and so on.¹ I will argue here that it is time that this reification of the image is challenged. This is not to deny imagery in architecture - who can deny the inevitability of the production of images in order to get things built and to represent those built things? Rather, the challenge put to the contemporary architectural use of the image is to *think it differently*. We will see that this re-thinking will involve a different conception of the visual and its relation to the other senses. The image will have to be thought in relation to the political, the poetic and, before all, the *ethical*.

First of all however, I begin with a necessary detour. The image has become increasingly significant for a gamut of converging socio-cultural and historico - metaphysical factors which extend beyond the mere introduction of digital technologies. I will confine myself to charting one strand of the philosophical that is playing a background role in contemporary metaphysics, and through this, in contemporary aesthetics. The source and underpinning of the contemporary scene is found to a large degree in the philosophy of Leibniz. More accurately, contemporary metaphysics is influenced by a *certain reading* of Leibniz. It is this reading that I wish to challenge first of all. To begin, I will present in summary form arguments that aim to persuade that Leibniz is a key influence in the theoretical present. Then I shall go on to 'read' Leibniz in a way that implicitly challenges the current interpretation, employing the later texts of Maurice Merleau-Ponty. This will allow for the

¹ The notion of the 'formant' is derived from music theory. It refers to all the components which make up music. In *The Production of Space*, Henri Lefebvre uses the term to apply to the architectural pp285-90

subsequent critique of the contemporary articulation of Leibnizianism to be set against the background of a phenomenological alternative. Finally, after having pointed to the shortfalls of current Leibnizian metaphysics and aesthetics, I will develop the alternative mode of thinking the image of architecture, which as we shall see, involves thinking the image through a different order of the visual. The image will thus become more than just a viewable screen - it will become a non-formal or *extra-formal* image of depth, of the ontologically folded surface, of a synaesthetically irreducible complexity. Put differently, the image will have to become *dialectical*. The image will therefore become a *monad*, as in Leibniz's metaphysics.

1. Leibniz

As an incomplete and suggestive beginning to the claim in favour of Leibniz's contemporary influence, I offer the following. At the most fundamental level of western paradigm shifts, the mechanistic legacy of Newtonian cosmology was first and most significantly disrupted by Leibniz. Leibniz challenged the Newtonian notion that the universe is made up of discrete objects obeying universal physical laws according to *external causation*, replacing it with a conception of the world made up of *relations*, *fields*, and *inclinations*. At the same time, Leibniz also provided one of the most trenchant early critiques of Descartes' metaphysics, substituting a monistic monadology for the dualism of subject and object at work in the latter. Although the lines of descent are complex, Leibniz's metaphysics can be seen as laying the ground for contemporary complexity theory, where a conception of the universe as non-uniform, heterogenous and

essentially relationally dynamic challenges conventional physics. In simple metaphysical terms, Leibniz contested the *atomistic* assumption motivating the Newtonian view, that is to say the view that the world is constructed out of ontologically separate chunks of matter with fixed modes of behaviour. In its stead, Leibniz posited a world whereby 'objects' are first of all 'relations' that implicate the field within which they are operating. This transition, from 'object to field'², is most evident in Leibniz' text *Monadology*, where the 'monad' or soul is said to mirror the events at work in the rest of the universe. Monads cannot achieve separation from the whole, rather they act as *contractions* of the universe, or moments within the unfolding of its being. Rather than being isolated blips of being in juxtaposition, each monad therefore carries within itself the capacity to shift the orientation of the universe, effecting a micro-to-macro dynamics that mirrors James Gleick's 'butterfly effect'.³ Leibniz therefore introduces into western metaphysics a profoundly disorientating *scalar* instability, where the small and the largest acquire only relative and not absolute status, such that at any moment the small-scale may enfold itself with the macro, and the large-scale may implicate itself within the micro.

Moreover, it is to Deleuze himself that we can turn in order to find that the nascent language of the *fold*, of implication, explication, perplication, complication and so on acts as the neo-Leibnizian paradigm-frame that encapsulates our contemporary; a Baroque

² The phrase is taken from a paper by Stan Allen of that title, in the AD edition *Architecture After Geometry*

³ See his book *Chaos*.

unfolding of non-linear mathematics, physics and aesthetics. In his book called *The Fold*, Deleuze argues that it is through Leibniz's metaphysics of the plural that we can begin to understand the dynamic conception of the world emergent within our present.⁴

2. Merleau-Ponty and a phenomenological monadology

Towards the end of his life, Merleau-Ponty began to speculate on the implications of Leibniz' metaphysics. It is plausible to claim that in the pages of "Working Notes" appended to his unfinished text "The Visible and the Invisible", he starts to see Leibniz' thinking as a precursor to his own, albeit without the 'ontotheological' baggage of 'pre-established harmony' and the ultimate unificatory device of a transcendent God.

Merleau-Ponty writes, in a passage entitled "Leibniz"

In denying the conception of perception-reproduction (on my body in itself of the exterior thing in itself), I open up access to a brute Being with which I would not be in the *subject and object* relation, and still less in the relation of effect with cause. The *In der Welt Sein* relation will take the place held in Leibniz by the relation of reciprocal expression of the perspectives taken on the world, and hence god as the unique author of these diverse perspectives which emanate from him as thoughts. The Being thus discovered is to be sure not the god of Leibniz, the "monadology" thus disclosed is not the system of monads-substances; but certain Leibnizian descriptions-that each of the views of the world is a world apart, that nonetheless "what is particular to one would be public to all," that the monads would be in a relation of expression between themselves and with the

⁴ Gilles Deleuze, *The Fold*

world, that they differ from one another and from it as perspectives-are to be maintained entirely, to be taken up again in the brute Being, to be separated from the substantialist and ontotheological elaboration Leibniz imposes upon them--

The expression of the universe in us is certainly not the harmony between our monad and the others, the presence of the ideas of all things in it-but it is what we see in perception, to be taken as such instead of *explaining* it. Our soul has no windows: that means *In der Welt Sein*-- [...] It is the recovery of the theme of perception that transforms the significance of the Leibnizian idea of expression.[VI, 222-223]

In this passage, Merleau-Ponty explicitly links the project of monadology - minus god- with the project of phenomenology, at least in its post-Husserlian mode of substituting Being-in-the-World (*In der Welt Sein*) for a constitutive theoretical consciousness. The monad is therefore taken to stand for the embodied presence of the subject, unassailably embedded within a world, projecting itself ec-statically, such that the subject can never be simply 'here' in a spatio-temporally fixed instant. The ontology of embodied being does not follow a photographic model of reality being most fundamentally captured in the instant of the aperture's opening. Being within the world, the embodied soul is always somewhere between dispersion and absorption in its tasks, contemplations, desires, *and* self-consciousness. It is for this reason that Merleau-Ponty equates Leibniz's famous statement on the first page of *Monadology* that the monad has 'no windows' with *In der Welt Sein*. The monadic soul is not a cartesian spirit, locked away from the world in a non-material realm. It does not therefore require windows that project the world onto itself, as if the world was a landscape outside and the monad a non-material eye behind the

glass. Rather, the monad is always, already projecting itself within the world, visible in each act of vision. As Merleau-Ponty points out, "Every external perception is immediately synonymous with a certain perception of my body, just as every perception of my body is made explicit in the language of external perception". [PP, 206] Perception does not therefore occur in absolute terms between an outside and an inside, between the landscape and the interiority of that which lies hidden behind the eye, on the contrary, each perceiving act involves publicity: the possibility that she who sees will in turn be seen. Merleau-Ponty writes, in *Phenomenology of Perception*, "I am not in space and time, nor do I conceive space and time; I belong to them, my body combines with them and includes them." [PP, 140] The body therefore in this text is not simply the *physical* body the pathologist may slice; it is not merely a 'thing' or object amongst others. The key aspect of Merleau-Ponty's notion of the body is that it is both *of the world* (and thereby transcendent) *and* of the soul (implying immanence). The body, as that ecstatic dispersion-contraction of the world, involves a *transcendence within immanence*. As Merleau-Ponty says, with regard to his *poesis* of the hands in his essay "The Intertwining":

There is a circle of the touched and the touching, the touched takes hold of the touching; there is a circle of the visible and the seeing, the seeing is not without visible existence; there is even an inscription of the touching in the visible, of the seeing in the tangible - and the converse...[VI, 143]

The body is therefore not simply a subject, nor an object, it is instead what Merleau-Ponty, in a partially-veiled engagement with Plato's *Timaeus*, calls variously a 'third-spatiality' [PP, 248], an 'entirely different kind of synthesis' [PP, 244] and most explicitly, a

'third genus of being' [PP, 350].⁵ The body is the repository for the most intense enigmas of a non-dualistic ontology: both object *and* subject (and therefore not reducible to either), active *and* passive, of the world and beyond it. During the course of his career, Merleau-Ponty invokes numerous tropes that capture this *in media res* quality of embodiment. The body is the 'fabric into which all objects are woven' [PP, 235]; 'a being of two leaves, from one side a thing among things and otherwise what sees them and touches them' [VI, 137]. Perhaps most suggestively, the body is 'a set of colours and surfaces inhabited by a touch' [VI, 135].

It is not correct however to see this metaphysical marriage between Leibniz and Merleau-Ponty as a more or less arbitrary speculation upon the fecund enigmas of an unfinished thought. The monadological ontology that Merleau-Ponty suggests in note-form at the end of his life is in fact considered much earlier on in his career in *Phenomenology of Perception*. Here Merleau-Ponty writes

To see is to enter a universe of beings which *display themselves*, and they would not do this if they could not be hidden behind each other or behind me. In other words: to look at an object is to inhabit it, and from this habitation to grasp all things in terms of the aspect which they present to it [...] Thus every object is the mirror of all others. When I look at the lamp on my table, I attribute to it not only the qualities visible from where I am, but also those which the chimney, the walls, the table can 'see'; but the back of my lamp is nothing but the face

⁵ I explore the connections between Merleau-Ponty's ontology of the body and the Platonic *Chora* of *Timaeus* in the fourth chapter of my doctoral thesis *Phenomenology and Difference: the Body, Architecture and Race*

which it 'shows' to the chimney. I can therefore see an object insofar as objects form a system or a world, and insofar as each one treats the others round it as spectators of its hidden aspects and as guarantee of the permanence of those aspects. Any seeing of an object by me is instantaneously reiterated among all those objects in the world which are apprehended as co-existent, because each of them is all that the others 'see' of it.[PP, 68]

In other words, Merleau-Ponty adopts Leibniz's metaphor of the monad as mirror in order demonstrate the fundamental *relationality* of worldly entities. Through embodied perception, each entity *implies* all the rest in an indefinite extension of the principle of co-existence. I do not simply see the lamp or the chimney, as if a subject can sit regarding the absolute isolation of that which is before it; each object of perception reveals the world in contraction. It is very important to be clear what this contraction amounts to. The world is not disclosed within the monad's being in the form of a crystalline totality; the metaphors of reflection and mirroring Merleau-Ponty employs do not in this instance imply a luminiscent presence. It is clear, for example, that the fabrication of the hidden is not the work of transcendental synthesis, as if the mind could piece together that which is unrevealed in the perceived object through a logic of inductive co-implication. The monad is emphatically not a mental synthesis. If this power *were* ascribed to the mind alone, an irreparable cleft would open up between the alleged transcendental ground of knowledge and the world. Transcendental synthesis would necessarily involve the world being constituted *in advance* of any encounter with it. As

Merleau-Ponty points out, in this case the mind would take the place of God.⁶ On the contrary, the invisible facets of the object are guaranteed only by the world itself, as that which is implicated by the object and yet beyond the ken of the perceiver. As with the body of the subject, the objects obtained through perception are therefore imbued with *immanence* in the form of visibility, and at the same time resistant to absolute epistemic capture through their *transcendent* facticity. The world implicated and co-existent with the perception of the lamp or the chimney is therefore replete with occlusions, shadows, hollows and unturned obverses.⁷

For Merleau-Ponty, as for Leibniz, this deficit on the side of immanence is not the sign of a fundamental lack or negativity. On the contrary, each contraction of the world within the act of perception involves the transformative differentiation of *expression*. The monad's perception of the object, the modes of its habituation and orientation towards it, are therefore ways in which the world is taken up and *re-situated* in the monad's terms. The irreducible immanence of the monad's structure of being entails that its own acts of perception introduce a unique perspective *of* the world through its biased embeddedness *within* the world. The perspectivism of perception thence becomes the *motivation* of the monad, and the source and dynamics of its expression. Hence Merleau-Ponty's words already cited - that 'monads would be in a relation of expression between themselves and with the world, that they differ from one another and from it as perspectives'. In

⁶ *Phenomenology of Perception*, p 372.

⁷ It is in this way that the later work of Merleau-Ponty involves the notion of 'perceptual faith' in the stead of inductive certainty.

general terms, the world therefore is only available through perception, and each perception involves the expression of a 'differential repetition' of that which is perceived. A phenomenological monadology derived from this could be put simply in the form of a syllogism:

To be is to be perceived
To perceive is to differentiate
Therefore, existence consists in differentiation

Merleau-Ponty calls this emphatic perspectivism at work in the monad's ecstatic and expressive projectioning in the world 'depth'. The depth of the world is the difference each moment of the monad's perception has upon the whole. He writes

This being simultaneously present in experiences which are nevertheless mutually exclusive, this implication of one in the other, this contraction into one perceptual act of a whole possible process, constitute the originality of depth. It is the dimension in which things or elements of things envelop each other, whereas breadth and height are the dimensions in which they are juxtaposed.[PP, 264-5]

The notion of depth therefore fundamentally challenges the Euclidean-Newtonian-Cartesian axis of an homogenous, isotropic three-dimensional space that can be represented using the orthogonal grid of x, y and z. With the intervention of 'depth', the z-co-ordinate can no longer be considered as *equivalent* to that of the height and width of x and y, or, within the conventions of architectural representation, the *planarity* of x and y. The space of the 'z' is not merely that of the x or the y turned on its side, as if space was empty of all gravities and orientational/corporeal

inertias. If z-space were merely another dimension or layer equivalent to the first two, then space itself would have to be considered as the space of juxtaposition: homogenous and isotropic. In this sense, the x, y and z of cartesian coordination would imply that all representations of space involve something like a 'pure objectality'. There is no relation at work in this paradigm between the object mapped in space and the perspective of a perception *within* that space. The object would therefore involve 'action-at-a-distance'- an ontological separation between object and subject that is mirrored ultimately in Descartes' dualistic ontology itself. All the dynamics of space would belong to the object, leaving the subject as a passive, disembodied and inexpressive eye perceiving the world from an invisible utopia. The object, as a product of fixed x,y and z values, would represent a 'view from nowhere'; an axonometry of the Same or pure perspectiveless and disembodied exteriority. In contrast, the z-space of 'depth' is instead the *medium* of the world, the ground of all corporeality. The embodiment that is a condition of perception entails that both the body of perception and its percepts are at the same time within and amongst the world *and* hidden from it, according to the *transcendence within immanence* ontology mentioned above. Taking its cue from the Moebius strip and the Klein bottle, it is this quasi-dialectical⁸play of exteriority and interiority, as the basic structure of worldliness, that z-space refers to. Only as an embodied and receptive inside-outside being can the outside-inside of the world reveal itself to me as a series of

⁸ 'Quasi-dialectical' because the term cannot rid itself of the residues of a reciprocation bought at the cost of an unavowable oppositionality.

partialities pregnant with a whole that never quite reveals itself. Intimacy implacably invokes *extimacy* and vice-versa. It is in this sense that Merleau-Ponty is right in claiming that what I am calling the 'Z-space' introduces a different *dimensionality* to space - not the space of pure objectality and juxtaposition but the space of *envelopment* or what he will later call the 'flesh'. In his *Working Notes*, Merleau-Ponty prefers the figure of a non-Euclidean *topological surface* - a folding continuum of overlapping elements intractably intertwined.⁹

Dispersion and contraction, contraction and dispersion: the embeddedness of the perceiver within the perceived suggests different models for thinking the relation between space and its representation, more creatively engaged, more attentive to the thickness of bodies; schemas that more readily *insinuate* themselves within the sinuosities of the world. Merleau-Ponty's thought generates what David Farrell Krell suggests is a 'different sort of organics', an *amniotic* metaphysics, or an *amphibian* ontology.¹⁰

⁹ See *The Visible and the Invisible* p210 & 213. The question would be how this figuration could resist being reduced or flattened to the image, in particular the image with currency today - the fold? How could this 'topological surface' emerge within an ontology of perception that involves a field of elements that yield to the inhabitation of the receptive body only to the extent that they at the same *withdraw* from its grasp in a transcendence that Merleau-Ponty calls 'vertical' and 'non-projective'? (p212). As such, z-space in Merleau-Ponty can be characterised as much in terms of *height* as in terms of *depth*, thus joining up his thought with architectural convention.

¹⁰ See the chapter "Unhomelike bodies - Corporeal Space in Merleau-Ponty, Bataille, and Irigaray" in David Farrell Krell's *Archetecture: Ecstasies of Space, Time, and the Human Body*.

3. The metaphysics of CAD

The study of the structure of experience, as both Henri Lefebvre and Walter Benjamin were keenly aware (and Kant was not), must account for the cultural, historical and technological context within which it is carried out. In that case, in order to produce critical engagement the phenomenological monadology constructed just now must be situated in the context of the contemporary: the image-based culture of western societies. The practice and institution of architecture has been affected, like all other creative disciplines, by this imagistic turn. In order to thus situate, I will construct a model of the metaphysics of Computer Aided Design and digitalised graphics. Just as a philosophical enquiry into the metaphysics of perception involves considering differing assumptions concerning the ontological structure of the object of perception, CAD technology and digitalised graphics involve differing assumptions about the ontological structure of the object of design. More significantly still, image-technologies and present-day perceptions feed back into each other - for example, virtual reality simulates being-in-the-world whilst experience becomes simulated by virtual reality. Exploring the metaphysics of CAD/graphics will therefore enable a more nuanced and critical exploration of the ontology of contemporary perception itself. That is, by examining the formation of contemporary images, it will be possible to challenge and transform the use to which they are put in the image-rich west. In order to clarify the metaphysics of CAD, it will be necessary to understand the notion and usage of the vector.

The Vector

The vectoral image involves a certain internal coherence or systematicity. The vectoral image, used in most CAD applications, implicates a specific level of mathematics and calculation. Rather than a group of juxtaposed bits of information as with the bitmap image, which are assembled using quantitative and iterative procedures, the vectoral image is manipulated *algorithmically*. That is, the vectoral image is constructed out of a series of equations and formulae which determine how each aspect of the image relates to the rest. In this instance, any modifications made to one local area of the image ramify into surrounding areas. The classic example of this is when the control points of a B-spline curve are manipulated. As I drag one of the control points, the mathematics that generate the image affect the global consistency of the shape - a local alteration involves ramifying effects throughout. The B-spline is therefore a system of continuously varying curvatures. Its 'space' is therefore not derivative upon a homogenous and isotropic frame; rather it follows its own laws or nomos. It is this internal consistency or variable geometry generative of the image that leads to a further significant feature of the vector. The vectoral image is not determined by a fixed quanta of information; instead it requires the amount of bits sufficient to render the algorithmic equations appropriate at the scale of operation. The vectoral image is therefore resolutely neither scalar nor grid-dependent. The vectoral image will not pixellate at any level of magnification, and is not generated in the first instance by specific values ascribed to x, y and z coordinates. The 'same' vectoral image can be rendered using different coordinate values.

In sum, the vectoral image comprises a set of relations rather than a group of informational bits. External manipulations of the vectoral image lead to internal modifications (as with the adjustment of control points on the B-Spline), insuring that the vectoral image is capable of geometric complexity.

The vectoral image, as a nexus of mathematical fields, is a *dynamic* system, capable of ramifying modulations. As a matrix of equations that allow for continuous variation, demonstrating system-wide sensitivity to external manipulation, the vectoral image therefore stands as the paradigm of current neo-Leibnizianism. As an 'object', the vectoral image is constructed through *relationality* and not atomicity. It is for all these reasons that one can claim that Leibniz is a fundamental influence upon the contemporary scene of design and theory - for on many levels there exists today the assumption that it is the *vectors* of the object rather than its constituent bits that most primordially define its being. Whether expressed in algorithms or not, it is certainly the case that the new paradigms of chaos and complexity in physics are grounded in the scalar-independent relationalities *between* objects rather than in the atomistic constituents of their alleged parts, be it the atom, the superstring or the micro-electricity of chemistry. This, I would argue, is certainly the case with Deleuzian and other similar contemporary projects. Folds, fields, swarms; assemblages, phyla, smooth spaces - all the terminology of the Deleuzian metaphysical paradigm are organised around the internal dynamics of a vectoral field of potentiality and self-organising matrices of materialised energy. It is for this reason that Deleuzian aesthetics tends to privilege continuously variable

curvatures, smooth or 'weak' forms, material *tendencies* or *inclinations* rather than essences. In the language of the Deleuzian theorist Bernard Cache, in his text *Earth Moves*, the privileged contemporary vectoral type is the *inflection*. The inflection or acentric curve (for example the B-Spline mentioned above and Bezier curves) introduces a geometry of the continuously varying surface, which with the interface between computers and milling machines produces non-standard fabrication techniques. For Cache, the conjunction of mathematics and complexity that the neo-Leibnizian paradigm introduces here is nothing short other than the pronouncement of a new techno-social epoch. He writes,

Are the inflections that seem to be cropping up here and there in contemporary architecture merely anecdotal? Or are they the herald of an aesthetic that is necessarily new, since modes of production have changed, but that is still essentially modern, since they seem to represent a fresh attempt to synthesise the formal, the social, and the technical? Moreover, do numerical technologies not give us the tools to realise once again Leibniz's programme: "Everything can be calculated"? Neo-constructivism, neo-baroque: these terms are not postmodern quotations; they refer to the power of ideal events that no realisation can ever exhaust and that will always return. [EM, 3]

At the least, Deleuze's project, as realised through Cache's philosophical and commercial extrapolations, has produced some unusual looking furniture. More seriously, as a project for examining the non-homogenous behaviours of materials and other complex phenomena (the urban, animal and plant behaviour, post-Euclidean geometry and so on) this paradigm has been highly successful, reaching beyond the limits of the classic metaphysical

imposition of a universal categorical and taxonomic schema upon reality. Deleuzian thought certainly unleashes the potential energy of a creative metaphysics that keeps its ear to the surface of a dynamical conception of being and action, generating what maybe summarised as a 'metaphysics of the inhuman'¹¹.

And yet.

The vectoral, as a token of complex, non-classical patternings that can occur at any scale (the nano, the bee-orchid, the unconscious, the urban, the economic, the cosmic) ultimately involves a privilege of form over content. Despite Deleuze's own preference for *expression* over hylo-morphism (form and matter),¹² the influence of his thought has tended to privilege the complex formal patternings of phenomena over any other consideration. Expression has come to mean the expression of *complex form*, rather than anything else. It is in this way that the current Leibnizianism diverges from the phenomenological monadology offered in this talk thus far. Expression in Deleuzianism has no relation to the ontology of *transcendence within immanence* mentioned above; rather it refers to the non-classical complexity and dynamics of external phenomena, be they crowds, traffic, weather patterns or viruses. Deleuzian philosophy is truly

¹¹ It is particularly in the work of the leading British Deleuzian philosopher, Keith Ansell-Pearson, that this framework is becoming dominant. See his books *Viroid Life and Germinal Life*.

¹² See *A Thousand Plateaus*, p44

antihuman in that exteriority virulently dominates all vestiges of interiority. Any internal dynamics located within the Deleuzian optic is immediately translated into the externality of a complex *form*. This tendency is certainly present in the Cachean outcrop of Deleuze's thought. Again, in *Earth Moves*, he writes, in defence of his notion of the 'frame'

We are then back to thinking of form as form, which means that we take things as images, with no relation to depth, to anteriority, or to use, and even less to representation. [EM, 29]

This valorisation of formalism is substantiated through an appeal to just the sort of exterior patterning referred to just now. Apropos of the Moebius strip, which Cache suggests is interesting because of 'the fact that it offers us a set of images in which inside and outside are notions devoid of meaning' [EM, 37], he nonetheless goes on to privilege on the basis of exteriority:

This paradoxical sign would then give us a pure temporality: a form that would be prior to any interiority or exteriority. It would be the form of an absolute exteriority that is not even the exteriority of any given interiority, but which arises from that most interior place that can barely be perceived or even conceived, which is to say, in the paradoxical mode, that of which the perceiving itself is radically temporal or transitory: the nonsummable, the noncapitalisable. [EM, 37-38]

Whatever ones views on the proximity of this passage to absolute self-contradiction and incoherence, it does at least demonstrate that Cache wants to privilege form, in particular the form of a fundamental exteriority. It is thus that the Deleuzian project has tended to realise itself. Cache does not represent a devious bastard offspring of Deleuze, but rather appears to remain true to

his master: a privileging or *fetishisation* of exteriority. This is revealed in a nutshell in the contrast between his comprehension of the Moebius strip as the sign of an absolute exteriority and the version given above, whereby the figure presents the paradox of an interiority and exteriority *wrapped inside (or perhaps 'outside') each other* - as a way of demonstrating the possibility of an ontology of transcendence within immanence. In Merleau-Ponty's figuration, this intertwining is thought of as a *chiasm* - a crossing over of different dimensions or levels of being through the gap (*ecart*) of difference. In other words, with Merleau-Ponty, the inside-outside aspect of such phenomena as two hands touching each other is treated as the exemplification of an irreducible ontological folding between immanence and transcendence. This contrasts with the Deleuzian frame, where moments of transcendence are privileged as triumphant signs of the emptiness and delusion of interiority.

An example of this ontological inadequacy in Deleuze (and Guattari's) thought occurs in their discussion of the 'diagram' in *A Thousand Plateaus*. The diagram is set up in classic choric-monadic form p141 "A diagram has neither substance nor form, neither content nor expression." [TP,141]. So far so good: the diagram appeals to an interstiality incomprehensible to previous ontologies. As such, it promises to offer a route out of dualism, in such a way that neither *res extensa* nor *res cogitans* are disavowed or repositioned again as oppositional. However, it soon becomes clear that Deleuze's solution of the diagram articulates the desire for a constructivist account of Being devoid of interiority. On this view, everything begins with 'deterritorialisation.' Hence,

“the diagram retains the most deterritorialised content and the most deterritorialised expression, in order to conjugate them.’ [Ibid]

Deterritorialisation therefore refers to the transformative elements that constitute any ‘assemblage’ – elements that may detach themselves from their current embeddedness and mutate into unpredictable future amalgamations. In this way, a few pages later in Deleuze’s text, there comes a formulation of the ‘diagrammatic’:

...it consists in taking regimes of signs or forms of expression and extracting from them particles-signs that are no longer formalised but instead constitute unformed traits capable of combining with one another. [TP,145]

Deleuze’s error lies in assuming that transformativity must be a product of deterritorialisation or exteriority. The diagram operates like a filtering device – externalising all forms of interiority in the name of mutability. He is therefore blind to the possibility that transformativity might be engendered through the interstice: allowing the ‘outside’ and the ‘inside’ to be mutually constitutive.

The whole Deleuzian philosophical project is marked by an aversion to subjectivity and interiority, as if our lives ought to be lived in the face of an implacably encroaching higher Truth of the exterior: be it the machinic, the schizoid, the assemblage, the rhizome’s interplay with the arboreal. In *Cache*, this valorisation of exteriority takes place vicariously, through a imago-geometric polemic. It is as if the *acentricity* of the privileged form of the inflection is the site of slippage between a topography without centre and a metaphysics without subjectivity. Splines and beziers therefore, according to the logic of *Cache*’s pseudo-revolutionary rhetoric, imply the death of subjectivity, or at the least its almost

total evisceration. It is as if this topophilia marks the final stage of Copernican cycles, with a Copernican *ex-volution* reverberating throughout the faculties, splaying them out onto the folding strata of a so-called 'mechanosphere'.¹³

With the vectoral image and the diagram, I contend that we see state-of-the-art Deleuzian theory exemplified in graphic representation. Ultimately, the vectoral images have led to a neo-formalism - anisotropic, heterogenous space maybe, but still *exterior* to the embodied subject of perception. A strange form of monadology, if a monadology at all: where the fields and forces that shape the 'object' are purely external, transcending perception. A dynamics of action at a distance - an allegedly 'dynamic' architecture complete prior to occupation, inhabitation, usage.

In general, the Deleuzian valorisation of exteriority violates and degrades everything about the world through the hyper-conceptual force of its ontological reductivism. With the extoller of the 'nomad war machine' there can be no place for subtle chiasmic phenomena such as taste, colour, erotic love, mood, silence, sensuousity, memory, let alone the politics of active agency. The redundancy of such significant categories in Deleuzian terms shows how flawed the whole project is, reducing some of its adherents to a Beavis and Buttthead version of Stoicism: masculinist imbecilic laughter in the face of a world whose ills they have defined as necessary and fated. *Amor fati* as a new way to masturbate.

¹³ Deleuze & Guattari, *A Thousand Plateaus* p74

4. *Extra-formal parametrics*

In the face of such trends and forces, the privileged aesthetic of the acentric curve and of axonometrically displayed vectors are no longer to be seen as neutral innovations in a pure design-based progressivism. My argument is not however that there is anything intrinsically wrong with current privileged modes of architectural representation; moreover I am a million miles away from proposing a crude *rejectionist* thesis of returning to the pencil and the sketch. My concern is rather with the *privilege* given to vectoral-based geometry in architecture and the context of that privilege. The privilege arises through an uncritical adoption of image-worship or what Baudrillard calls the 'simulacra'. Arguably, in the hazy and unresolved transformation from the industrial production of objects to the commerce of electronic information manipulation, Marx's fetishism of the commodity has now mutated into the fetishism of the *image*. In today's prevailing theory, the contemporary western situation of the hyper-text and hyper-image has therefore found the metaphysical frame and justification for its ideology: "images are the contemporary form of experience." As Cache's texts proclaim, architecture becomes another means for the production of images - and nothing but that. In a sense, this is a new story - about CAD, vectoral-based parametric modelling, the emergent possibilities of design on computer, and so on. However, as Lefebvre shows, writing in 1974, the story has already been told:

As for the eye of the architect, it is no more innocent than the lot he is given to build on or the blank sheet of paper on which he makes his first sketch. His 'subjective' space is freighted with all-too-objective meanings. It is a visual space, a space reduced to blueprints, to mere images - to that 'world of the image' which

is the enemy of the imagination [...] The tendency to make reductions of this kind - reductions to parcels, to images, to facades that are made to be seen and to be seen from (thus reinforcing 'pure' visual space) - is a tendency that degrades space. [PS, 361]

From the formalism Lefebvre railed against in the seventies, what we have now is a neo-formalism with different tools: privileging the products of architecture as iconic *object-images* above all other considerations.¹⁴ This, then, is the crux of the polemic presented today: that the neo-Leibnizianism of current theoretical paradigms leads, in architecture, to a re-invigoration of formalism, dressed up in contemporary imago-philia. Contemporary practices of architectural representation therefore do nothing to contest or ameliorate life under the conditions of image-saturation. And as I have shown, Deleuze and the deleuzians have, in the space of architecture, surfed the cusp of the wave of this new ideology.

This critique of an uncritical imagism and visualism in architecture has been presented against the background of a different way of thinking about complexity and phenomena - that of Merleau-Ponty's phenomenological monadology. The question that now arises is how this theoretical subversion of the privileged *iconomy* and object-based ontology can lead to different modes of representation, and, in the case of architecture, contestations of the current paradigms in CAD. In what way can the z-space of a

¹⁴ Although it is not clear either way, it would seem that even the recent debates around Bataille and *'l'informe'* themselves fall into just this pattern: form concealed as non-form, or architecture paradoxically presented through *anarchitecture*. Whatever the merits of the diversion, it seems not to have led to a clear and effect intervention into the current formalist hegemonic landscape.

non-rectilinear and non-external depth or height contest the flattening of experience into the image? How can phenomenology permit the image to be understood outside of *visualism* - in terms of a different order of the visual?

Through working with Richard Scott as part of Surface, we have, in our teaching, opened up the field of what we call 'extra-formal parametrics'. The core of 'efp' is to challenge the formalism at work in contemporary architecture representations and practice, and offer, in its place, a more *engaged* poetics of the construction of images and critical practices of 'reading' images. In a moment, I will develop a brief history of Surface's projects in this direction. However, in order to introduce efp, it will be necessary first of all to return to Merleau-Ponty. Specifically, it will be necessary to zoom-in on his ontology of the object, to show how it modulates the vector-based image of the previous section.¹⁵

Instead of thinking of the object or 'thing' as either a substance modified by temporal accidents (for instance a sphere that is made of wax, is coloured green, and so on), a matter that is stamped

¹⁵ At first sight, it might seem strange to talk of Merleau-Ponty's 'ontology of the object', given that the previous analysis has stressed the pre-subjective and pre-objective character of his thinking of the body. This is a fair point; especially when one considers that across the course of his career that which is prior to subjectivity and that which is prior to objectivity tend to merge or cross-over into each other to the point of indistinguishability. However, in response I would claim that it will always be necessary to make just such a distinction in order to provide an ontological account of the passage from delirium to sanity, and from irrationality to rationality. At many points in his texts, Merleau-Ponty does just this - demonstrating that 'our' ability to make ontological distinctions between ourselves, others and objects is not absolutely guaranteed at all times. On the contrary, sense is granted at the risk of a non-sense of indistinguishability, which in the *Phenomenology of Perception* Merleau-Ponty calls 'the night'.

with *form* (like glass poured into a mould), or a fixed essence¹⁶(like H₂O), for Merleau-Ponty, the thing is a *lived* or *verbal* entity. The entity is therefore *essentially processual*.¹⁷ What all previous models of the object have in common is that they privilege certain of the qualities of the object - say its shape, or, in the case of the musical 'object' its pitch and duration, over and above the others. It is in this way that 'substance' can be distinguished from 'accident', 'essence' can be distinguished from 'contingency' and 'form' distinguished from content or matter. Each of these models operates according to a binary logic: the *necessary* is valorised over the *contingent*, producing an ontologically rigid and fixed conception of the object, controlling, repressing or eliminating process and a more dynamic conception. For Merleau-Ponty, in contrast, the thing cannot be ordered by a binaristic conceptual frame.¹⁸ Rather, the thing is formed out of a system of attributes, each of which affects the rest. For Merleau-Ponty, there is a primordial *synaesthesia* at work in our perception and comprehension of things. Each attribute, whether it be of colour,

¹⁶ In "The Origin of the Work of Art" Heidegger gives a brief history of different conceptions of the object or 'thing' in Western metaphysics pp148-157.

¹⁷ Merleau-Ponty makes reference to the pivotal figure in 'Process' philosophy – A.N.Whitehead, in his essay "The Concept of Nature I" (in *In Praise of Philosophy and Other Essays*).

¹⁸ As one of my students has pointed out, Merleau-Ponty's thought pre-dated the metaphysical absorption of the science of chaos and complexity by a decade in this moment of his thought. I thank Henry Fletcher in his essay "architecture and the contemporary condition" for the insight. Example abound in the two lectures on the Concept of Nature (mentioned in note 17). For example, Merleau-Ponty writes, "Whether we are dealing with organisms or animal societies, we do not find things subject to a law of all or nothing, but rather dynamic, unstable equilibria in which every rearrangement resumes already latent activities and transfigures them by decentering them." [IP, 165]

of tactility, of smell and so on, is expressive of the object *only* by way of interaction and exchange with all its other attributes. The qualities that make a thing what it is are therefore not merely *qualitative additions* to the already given character of its being; rather, they are the thing itself, through their interplay. The Aloe Vera by the side of my computer is not a certain splay of arms *and* a rubbery texture *and* a mottle green *and* a spikeyness of edge, as if each layer of description progressed ever more closely to its essence; each of these layers already implies the rest in a fleshy ‘synthesis’ of the elements of the plant’s existence. There is no essence or substance beneath the synaesthetic patterning of the existent’s qualities. For Merleau-Ponty, this formantile complexity of the thing is revealed and amplified in painting.¹⁹ Hence:

Cezanne declared that a picture contains within itself even the smell of the landscape. He meant that the arrangement of colour on the thing (and in the work of art if it catches the thing in its entirety) signifies by itself all the responses which would be elicited through an examination by the remaining sense; that a thing would not have this colour had it not also this shape, these tactile properties, this resonance, this odour, and that the thing is the absolute fullness which my undivided existence projects before itself. The unity of the thing beyond all its fixed properties is not a substratum, a vacant X, a subject in which properties inhere, but that unique accent which is to be found in each one of them, that unique manner of existing of which they are a second order of expression. [PP318-319]

¹⁹ In *Eye and Mind*, Merleau-Ponty writes, “Because depth, colour, form, line, movement, contour, physiognomy are all branches of Being and because each one can sway all the rest, there are no separated, distinct “problems” in painting, no really opposed paths, no partial “solutions,” no cumulative progress, no irretrievable options.”

Rather than 'objects' being conditioned by a strict and metaphysically guaranteed order of formation (essence, form, or substance), Merleau-Ponty contends that things-in-the-world are perceived through an extraordinary exchange of the elements of their being. Implicit in Merleau-Ponty's ontology is a renewal of Bishop Berkeley's rejection of the distinction between 'primary' and 'secondary' qualities established by Locke - the distinction between qualities of nature and qualities of perception, between *mechanical* reality and *subjective* effect. In Berkeley's case, the argument centred in part around the inseparability of a colour (deemed by Locke to be an effect of perception and not inherent in the object) from its form. As Berkeley writes, "...the qualities or modes of things do never really exist each of them apart by itself, and separated from all others, but are mixed, as it were, and blended together, several in the same object." [PHK39] Merleau-Ponty's thought in a sense merely magnifies this argument, deducing its synaesthetic implications.²⁰

This phenomenological analysis of the perception of the object raises a question, or rather opens up a divide - between science and poetry. On the one hand, the qualities of objects are on this thesis clearly not universals - *this* image signifies only through it being gathered together with all the other sensory aspects of what is before me gathered in the thing - the colour of the Aloe, its subtle translucency, the density of its flesh and so on. The thing is

²⁰ See George Berkeley, *Three Dialogues between Hylas and Philonius* - First Dialogue. From Merleau-Ponty's references and debt to *esse* is *percipi*, to his allusions to Berkeley's discussion of depth, to the necessary implication of synaesthesia in an immanentist rejection of the primary/secondary quality distinction, a text has yet to be written on the Bishop's influence on Merleau-Ponty's thought.

not equivalent to a scientific amalgam of wavelengths, compounds, alkalis and so on. However, neither are the qualities of the object *absolutely* particular and specific - for how could we *recognise* a colour or a smell if it did not bear some form of resemblance to other places and times? Therefore, if the qualities that just are the thing in their dynamic interplay, how can they ever be known or comprehended as such? In the case of the absolute singularity of the thing, reality would simply be too fluid and fleeting to afford capture by naming. The problem is then that Merleau-Ponty's synaesthetic *qualia* are neither the universals requisite for a rigorous science nor expressive of the absolute particularities of what in any case would be an impossibly poetic imaginary. In that case, what are they?

The answer to this question is crucial: it will lead on to a first formulation of 'extra-formal parametrics'. What is required, in order to think through the relation between the thing and the qualities that make it what it is, is a *dynamic* conception of the sensory field. Rather than there being qualities, such as colour, materiality, smell and so on, *and* their being instantiated in such and such an object, as if the quality *in-itself* somehow existed independent of its actualisation (as a name or an inductive promise) what is needed is to see the qualities of sensory existence as *transformations* of themselves through the emergence of the thing. In this case, qualities would be transformative of 'things' as things are transformative of qualities - a double-movement implying a 'circular dialectic'²¹ of inchoative

²¹ The term is taken from Merleau-Ponty's essay "Dialectical Philosophy" in *In Praise of Philosophy*.

reciprocation. Instead of things, qualities, colours, ambiances and so on accorded discrete status in an ontological taxonomy, Merleau-Ponty's phenomenology opens up a mercurial 'primordial space'²² where each of these categories become fluid and co-creative. In painting, the oils only begin to express their colour on the canvas, not in the tube. As one of his commentators, Alphonso Lingis writes,

The sensible field is a realm of being where all points become pivots, all lines become levels, all surfaces become planes, all colours become atmospheres, all tones become - as in dodecaphonic music - keys. There are not particulars and universals in the sensible field; what there are are particulars generalising themselves, a whole landscape concretising momentarily in this red, a whole love given in condensation in a vase of flowers, a whole adventure or fatality sounded in the five little notes heard in *Swann's Way*. Each given is the spot and moment in which a schema of being is being elaborated. [FB, 7]

This passage suggests a new critical practice for the construction and interpretation of images. What is named by a colour, or a material, is in each case of its use *transformed* or *re-created* in each situation. At the limit, such transformative representation challenges the boundaries of the name, motivating a *poesis* that emanates from the natal *inter-corporeality* between body and world. As Merleau-Ponty intones, "Quality, light, colour, depth, which are there before us, are there only because they awaken an echo in our body and because the body welcomes them" [PrP, 164] In this situation, the 'primordial space' of perception would result in a fundamental ambiguity dominating all attempts at

²² Merleau-Ponty, *The Visible and the Invisible* p 213.

universal classification. Hyper-conscious of the fluxual character of the *qualia*, colours become materials, surfaces become landscapes, water becomes a building material or a monster, a painting becomes a journey in perception, a film a way of walking. Rather than objects in space, figures within a ground or even a 'depth' or 'height' that resists the abstractions of volumetric orthogonality, the force of the perceptual ambiguity at work in this ontology pushes figurations towards the 'surface': topographies, envelopes, fissures and invaginations of the phenomenon as it emerges in the here of now.²³ The thing involves discontinuity within continuity: rather than essences, substances or forms, things reveal the dynamic *continua* of their elements, and in this perceptual event they disrupt an ahistorical sensorial schema through the timeliness of their advent. A 'logic of the visual' is undone, for vision and light have no in-itself value; as elements or formants of space they acquire their expressive value only through transference with the other *qualia* at work. We are thus no longer bound metaphysically to 'cling to vision'.²⁴

Merleau-Ponty's ontology of the aesthetic object therefore exposes the *dynamic complexity* at work between the body and its perception of the world. Rather than a formalist or necessitarian approach to the perception of objects (most often ordered by ocularcentrism), the mercurial transformativity of the 'primordial space' of synaesthesia entails that there is not one privileged

²³ In a future text I will argue that a key discontinuity between the early and the later Merleau-Ponty occurs in the form of a shift from a privilege ascribed to 'depth' to that of the 'surface'. This shift is in the main a result of Merleau-Ponty leaving behind the Kantian framework of valorising an individualist intentionality towards 'intercorporeality' and the 'flesh' ontology.

²⁴ *Eye and Mind* p169

aspect of the object which fixes it as such and guarantees its relation to the name. Form is nothing without the *extra-formal*. Things in the world are *concrecences* or *gatherings* of the elements which make up the world, colours, materials, atmospheres and so on, and the elements of the world are nothing but that which is gathered in the object. The 'primordial space' of things is therefore at the same time a 'primordial time' of transformative perceptual events.

It is in this way that the extra-formal, through the mediation of the image, becomes the ground of intense experience and poetic rapture. For example, it is again through painting that Merleau-Ponty's thought reveals how the image may become transformative of our experience. In the same essay, *Eye and Mind*, he writes that "it becomes impossible to distinguish between what sees and what is seen, what paints and what is painted" [PrP, 167] Thus Cezanne's feeling after years of painting Mont St. Victoire that he was no longer sure whether he painted the mountain or the mountain painted him.²⁵ This ambiguity between the painting and the painted has a significant corollary: that the image and the object, through the active/passive agency of the painter, are *reversible*. The 'object' is vulnerable to becoming its own image, as the image is liable to become another layer of objectification of the object. In other words, the projectivity of a painterly representation becomes *bi-valent* - there is a fundamental ambiguity concerning the direction of the projection. Thus, the most fundamental mode of ecstasis and transcendence at work in the image, beyond the intrication of the visual within the other

²⁵ Ref.

formants of our experience, is shown, through the painting, to be the involvement of the image with the world itself. The image, if it 'catches the thing', does so finally by involving itself in the *spatio-temporal* order of the thing itself, intervening in the *historicality* of the object. Thus art interpellates perception, and we can no longer regard a sunset on the Thames without being reminded of Turner, nor think of the atmospheres of the mid-west without Hopper, the Parisian arcades without Arget, or indeed Mont St. Victoire without Cezanne.

In this way, Merleau-Ponty's ontology leads to a more dynamic conception of the image, a conception which, borrowing from Walter Benjamin, we can call 'dialectical'.^[ref]

Dialectical images are not flat and do not flatten – rather, they reveal the world in its elemental wholeness - shadows that attend every form of light, colours that involve themselves with every shape, smells and atmospheres that dwell within the visual. The dialectical image refuses a primacy ascribed to the visual. Each moment of visuality is always already interwoven within a materiality, a sensuality and a relation to the spiritual. Through the dialectical image, the hierarchy of the senses that has fooled us for too long crashes or melts into an elementary synaesthesia. This is not to say that all dialectical images are beautiful, sensuous or spiritual. Dialectical images are not forever indebted to the landscapes of Cezanne beloved of Merleau-Ponty. Rather they evoke a relation to the beautiful, the sensuous or the spiritual (if only through negation). A disused factory bespeaks a world that has passed, and all those who were involved. A crematorium, a slag heap, passengers crushed inside a train - anything can

become a dialectical image.

Dialectical images are representations that subvert sense, that engender a world in transformation - that articulate or express the tensions of the contemporary. Images that therefore do not merely capture the present as if the present was an unquestionable outcome of the day before and all the days before, but rather images that challenge such historicism and its questionable logic. Dialectical images therefore seek to uproot the fixities of the now, exposing the contingency at work in all forms of apparent necessity. Dialectical images render fluid that which was considered solid. They are ontological volcanos, transforming rock into lava, old shapes into new formations.

Dialectical images can therefore be as political as they are poetic and as poetic as they are political: an image that has projected within itself a world, a way of living, a condition - a poesis in the field of the political, and a politics of the poetic. That which is beyond form and the externalities of pattern, announced through phenomenology, is the world itself - a carnal limit for identity and difference.

"Do not despair of division by enforcing upon me your form of the unit; yet do not defeat me in the hour of struggling towards my ideal."

Between the two moments of this appeal lies the dialectical image: fissuring unity, gesturing beyond itself towards the ideal. Could architecture employ dialectical images? Perhaps the best suggestive response to this question comes from Merleau-Ponty:

The word "image" is in bad repute because we have

thoughtlessly believed that a design was a tracing, a copy, a second thing, and that the mental image was such a design, belonging among our private bric-a-brac. But if in fact it is nothing of the kind, then neither the design nor the painting belongs to the in-itself any more than the image does. They are the inside of the outside and the outside of the inside..[PrP,164]

Images (and designs) are therefore not to be conceptualised as flattened screens, derivative or epi-phenomenal in relation to the world by way of their implicit or explicit demands for projection. As with Leibniz's monad, images are rather already intertwined with the world, expressing it from *within*. The image is dislodged from its old role as the copy of a copy and esteemed as a site where reality is transformable through mediation. The image stands on all levels between us and the world, offering (in the best cases) alternatives to a levelled-off and numbingly habituated relation to life.

We must be careful not to re-insert visualism into this chiasmic notion of the image. Although Merleau-Ponty prefers examples drawn from painting, it seems clear to me that the 'image', conceived dialectically, chiasmically and so on as above, is in nowise always primordially visual. The image that transforms our perceptions of the world can therefore be an 'acoustic' image, or a kinaesthetic image or a material image.²⁶ It is thus when the 'image' is opened out from a tenaciously latent visualism and located more in terms of an undetermined 'imagination' that an

²⁶ Anyone who has encountered 'the city' with a walkman, not in order to block out sounds but in order to transfigure their perceptions will testify to the acoustic image working in this way. For instance, walking in the financial district of London (the 'City') in the rush hour with Aphex Twin's *Classic Ambient Works* is recommended.

architecture of the dialectical image can emerge. According to the reversibility established between object and image above, architecture is, as Cache establishes, a form of image production. What Cache does not recognise however is that architecture is this, and it is more than this. Architecture produces buildings that are images that become buildings again across the sedimenting layers of their being experienced and occupied. The ecstasy of the architectural lies just in this: how images are transcended finally by the presence of the building itself (as the possibility of an image). In the best cases, at each stage in this reversibility a transformation takes place. Thus each time I visit St.Paul's, my body is seized by sensorial affordances, of verticality, of smell, of a reverberating and ecclesiastic echo, a symmetry inspired by sentiments towards the divine. In the hours and weeks afterwards, St.Paul's becomes a set of images again – the haunting voice of the choir conceals itself as the promise of inspiration in my bodily unconscious. And it is when I re-visit the building months later, the images that have collided with each other through each subsequent step are unravelled once again in a joyous expiration in the face of the sheer presence of the building.

By way of a concluding narrative, I will now discuss how this elaboration of the metaphysical journey from a phenomenological monadology to the 'extra-formal' image has arisen productively in the course of my collaboration with Surface.

The main over-arching background context to the formation of Surface was the desire for a philosophically motivated exploration of the emergent domain of post-Cartesian architecture. As a philosopher in the phenomenological tradition, my immediate input

to the collaborative came in the form of a critical dialogue with deleuzian nomadology and smooth spacism in favour of an architecture of engagement. I felt intuitively interested in and yet uncomfortable with the weak-form tweaking and iteration loops applied to cartesian forms current in the mid-nineties. Our basis then was in the emerging field of what we call 'formal parametrics'. Formal parametrics was defined in quintessentially Leibnizian terms by Bernard Cache, again in his text *Earth Moves*. He suggests that computational capacity is leading to objects which are 'no longer designed but calculated.' [EM, 88] This vectoral turn of CAD experimentation has unleashed myriad projects whereby the 'object of design' is a field of parameters that are generated by a set of algorithms that are used to produce non-cartesian complex forms. This has allowed architects and other image makers to embrace the emerging paradigms of chaos and complexity as novel elements in their representational craft. As a result, through such 'data-field processing', paper architecture turned overnight into SVGA architecture or monitor-architecture.

What was interesting in this movement for me was the way in which the orthogonal grid became the basis for a play at the limits of the cartesian: the sheer data-processing capacity of the new computers allowed vectoral images to be rendered overnight, producing distortions of xyz space that unveiled the undisclosed richness of cartesian-based possibility. Instead of Descartes' legacy viewed reductively as the history of an intractable problem, as it so often is in philosophical discourse, the cartesian became the grid of possibility. As a paradigm of this, Richard Scott's Cornell University Aeronautical Science room project with Andrew

Zago is a case in point. A fractal field of complex form generated from a study of smoke patterns was rationalised in terms of an orthogonal grid in order to produce a series of distortional vectors. These vectors were then applied to the surface of the engineering lab in various ways, producing different layers of form out of phase with the actual space of the room. The effect is that of a dialogue between the rectilinear rationality of the room itself and a virtual semi-complex form extruded through it. In the Cornell project, Descartes meets Prigogine and ends up playing The Orb. The fume cupboard subtends from the ceiling like a stalactite, rendered ambiguous according to the rationalised tracing of the smoke patterns across its surface. The stalactite is therefore neither functional, or formal: it occupies an ambiguous *in-between*.

Although involving surface ambiguity, Scott and Zago's Cornell project was still very much in the realm of 'formal parametrics'. The finished result is a product of cartesian form and a complex form reacting to each other to produce the classic 'weak-form' effect: orthogonality distorted and looped back into itself.

In order to jump from this moment of late-formalism to the 'extra-formalism' suggested in Merleau-Ponty's synaesthetic ontology of the thing, what was required was a two stage development: firstly, that the qualities of the object themselves become the basis for the object's transformation, rather than an arbitrary or quasi-arbitrary datum of complexity. Secondly, that the qualities of transformation involved are not just the volumetrics of shape or 'spatiality'.

Surface's first project, the Shinkenchiku residential design competition's award-winning entry 'Softspace', was a pivotal moment between these two phases in the representation of

architectural images. The brief for the competition in 1996 was ‘to explore the possibilities of non-movement in architecture.’ Taking its cue from Zeno’s paradox of the arrow,²⁷ Surface decided to develop the project in the direction of using non-movement to represent forms of movement. We took time-lapse photographs of simple bodily gestures like drinking a cup of tea, creating 4-D images of frozen movement. Subsequently, colour information read from one of the time-lapse images allowed the animation package ‘Infini-D’ to generate a distorted frame. The original image was then rendered in terms of this distorted grid in order to produce the final ‘image’. Rendered in this way, Softspace hangs between formalism – the product as a purely visual ‘image’ – and extra-formalism. The image produced is *formalistic* to the extent that it is yet another product of data-field processing and another triumph for visualism. In this sense, Softspace has much in common with the iconic calculated images such as Greg Lynn’s Hydrogen House and Scott and Zago’s Cornell project. However, the difference between these earlier images and Softspace is that with the latter the distortion element is *not* a randomly picked source of complex data – in the case of Lynn’s project the trajectory of a car’s headlights, or with the Cornell project, the patterns of dissipating smoke. Rather, the distortion is produced by the *object itself*. The object is therefore expressive of a shift away from the architectural object reduced to the status of visual image. The ‘form’ or volumetricity of the final object is a function of the colour fields of the original image, and the colour fields are

²⁷ In Zeno’s paradox, the arrow’s trajectory is represented at different moments along its path, generating the problem of how it actually *moves* from one moment to the next.

expressive of the form produced. The data-field processing of Softspace is therefore immanent to the image itself, producing a *synaesthesia* that resembles that described earlier by Merleau-Ponty. It is therefore no longer possible to determine absolutely that which is formal and that which pertains to colour in the rendered object. Softspace therefore announces a fundamental *ambiguity* over the nature of the elements of design and architecture. Rather than being able to determine the exact character of vectors involved – colour, form, materiality, scale and so on, it is suggestive of an architectural *surface* involving intertwining sensory vectors - colour transforming ‘form’ would therefore be the first stage of an extra-formal parametrics. Design would therefore involve embracing a fundamental ambiguity over the field of objects it produces. Rather than generating a design object from the form to its colour to its material index and so on in additive fashion, Softspace suggests that the image is from the outset a combination of reciprocally transformative parametric agents. In this way, extra-formal parametrics imitates and amplifies the ‘primordial space’ of Merleau-Ponty’s synaesthetic object of perception, generating a poesis of the surface.

This exploration of the qualities of the architectural surface was further explored in Surface’s next project, *Aquaphilia*. In *Aquaphilia*, a digital film of water shot from a few millimetres away from its surface was post-produced into a phenomenology of the meniscus as it gets increasingly agitated. In the original show, the film was projected onto a horse-shoe of projection material installed at the RIBA, creating an immersive environment. *Aquaphilia* therefore demonstrated the ambiguities of an

architectural surface: water became wall became a *chiasmic in-between*.

Far from being another visualist approach to the image, 'extra-formal parametrics' suggests a creative metaphysics which transforms architectural imagery into the possibilities for intense poetic experience through the interplay of all its formants. The vector is used not to produce random complexities and weak forms, but layers of ambiguity that enable the occupant's imagination projective scope. Through an ontologically dynamic conception of the image (implying its outsides – synaesthetic and spatio-temporal - the outside-inside of the world), extra-formal parametrics acts as a prospective for the perception of the designed object's users, just as certain of Turner's images evoke being-by-the-Thames-at-sunset and listening to the Aphex Twin through a walkman disrupts the functional reality of the City.. At its best, it offers itself as a way to produce dialectical images: opening up the possibility of ever richer dialogues between the imagination of the architect and that of the building's occupants.

© Jeremy Weate 1999