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## **Towards re-definition of space-ness in the post-mechanical age: Methodological notes**

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### **Abstract**

The aim of this study is to describe *a model of the dynamics of constituting a living place* that is peculiar to the material condition of humanity today and that lends itself to empirical studies of *meta-development and sustainability* of the human-made environment. The empirical point of departure is the novel character of contemporary knowledge and knowing and the shift it leads to from the transparent, perspectival space to networked quasi-objects, from design to *meta-design*. It is argued that the self depends for its ability to recognise itself primarily on collisions that suspend the flow of spatialised complexity. The sites of such collisions are superpositions of virtual and material interactions – spatio-temporal instabilities or *warps*. The structure of such collisions mirrors the *mechanisms* characteristic of the functioning of our techno-scientific civilisation and associated with *different levels of measurement, embodiment, and organisation* that pattern the human unconscious, the material and knowledge systems, the ‘lifeworlds’. This proposition expands the notion of the Schmarsow-Benjamin ‘elbow room’ (Spielraum) and gives a perceptual-empirical meaning to the self’s ontology, to the ‘living place’ and its ‘sustain-ability’. The ‘elbow room’ may be viewed as a dynamic impact parameter – an effective existence radius of the self – as

an assemblage of the self, place and interactive narratives binding them dynamically together.

## **An Introduction**

The Cosmos of Aristotle was a purposeful, stable unity of Gods, things and humans. For the Greek philosopher time was the image of eternity, not regular movements of a machine designed and maintained by humans. Galileo and Newton separated humans from things and legitimated a fundamentally unstable civilisation dominated by rationality without limits. The mathematisation and complexification of the material world that originated in the 16<sup>th</sup> century Europe and reached its climax at the close of the mechanical age (i.e. in the last decades of the 20s century ) have made humans inseparable from techno-scientific practices and dependent on interrogations of spatial systems they no longer control. The enigmatic novelty of this condition of humanity has recently been a source of many studies. The point of departure of such studies is the weakening of the Cartesian notion of 'extension' and 'subject' and loss of nature as a neutral referent. It is as if the stability and uniqueness of the self and place have been dissolved into the objectified flow of matter propelled by the runaway complexity promoting itself. It is this turn in the fortunes of humanity - be it cast in many different forms - that inspires and gives empirical meaning to the current studies of sustainability and corporeal (in)stability. Clearly, such an agenda cuts across the traditional subject boundaries and methods. It depends for its success on masterminding *synergies* between disparate knowledge systems, more precisely on *competences-driven access to specialist knowledge*.

The question that gives *focus and specificity to this study* is about what line of questioning should be chosen to move beyond the familiar themes of cyclist paths and bin collection, beyond the 'competitive design' to promote capital accumulation, i.e. beyond the parametrisation of the problem favoured by the western establishment because it lends itself to technocratic methods (e.g. Zukin, 1995, Law and Lawrence-Zuniga, 2003, Talen, 2005). The position adopted here is rather 'philosophical' but no less pragmatic and empirical. Its starting point is the working

hypothesis that 'place-ness' and its stability and sustainability are first and foremost about the *attitude to bodily existence*. For this to be more than a rhetorical claim it is necessary to develop a theoretical model that lends itself to *empirical examination* and testing in terms of novel parameters chosen so that the process does not default into the conventional discourse it wants to avoid. The key to addressing the issue is the recent shift in material life from the regime in which the human (object's) body was a sole measure of big and small, real and unreal, fast and slow, to the current regime in which there are many competing *levels and scales of measurement and embodiment*, of bonding and connecting, i.e. molecular, viroid, genomic, planetary; mechanical, quantum, fractal, digital, etc. Objects and bodies are no longer simple autonomous entities; at least for the purposes of meaning making and creativity their existence is inseparable from the material and spiritual environments. Both, the 'existence' of the human body and its environment are better thought as being constituted by their mutual interactions, by the rise and decay of the energy expended to engage them, to turn them into an assemblage of humans, things and space. In such a world the self is caught in a multitude of networked structures, of communication, transport, learning, etc. to which it has to conform and with which it has to engage almost every minute. Already Walter Benjamin - and after him many others - talked about *distraction*; the subject is no longer constituted by direct body-to-body encounters. Much of what a human being 'passes by' or runs into are not processed in terms of the direct experience of touch, vision and hearing but via a mediator, be it an interpretative memory of a style, knowledge of ideology or a naughty video. There are in the literature numerous examples of highly imaginative attempts to conceptualise manifestations of this new condition of humans, for instance in a collection of case studies of art, design, architecture but also risk and gene manipulations introduced and contributed to by Gilles Deleuze and Felix Guattari (Crary and Kwinter, 1992), in an anthology of post-Husserlian 'geometries' taken up by contemporary architects (Lynn, 1998), in a study of the spatialisation of reason grounding urban discourse (Soja, 1996), of the dynamic ontology and design of 'intelligent' quasi-objects (Smith, 1996), and no less in an all embracing philosophical study of the genesis of views about 'place-ness' from Aristotle to Deleuze (Casey, 1998).

*The aim of this paper is to take this line of inquiry one step further and to offer a fresh working hypothesis about the role and functioning of the mechanisms that dominate the flow of material exchanges (e.g. life of a city, community, society at large) of today. It is then possible to ask about the methodological steps that may be instrumental in revealing the processes constituting 'place-ness' today, in finding their link to specific techno-scientific models of the world, and in pointing to their usefulness in identifying strategies and novel technical features in sustainable interrogations of material and knowledge systems, in meta-design.*

## **Sins and Sustain-ability**

Environmental theories (ET) of design and technology and their uptake by institutions and individuals constitute a well-established research and communication field. However, such research is almost without exception conducted along traditional "specialist" lines, e.g. philosophy, architecture, social policy, energy technologies. This creates a gap between the image of the ET created via 'objective' macro indicators of desirable progress and the ET that has something relevant to say about experienced (lived) reality of an individual or community in a material site. It is the latter that must be addressed if we are to alter attitudes that might lead to new attitude to things and material life, not just to more efficient garbage collection. Today, most stakeholders understand the design, technology, indeed any environmental and particularly the urban dynamics in its medialisised form. It is dominated by the visual spectacle of material progress. For the purposes of promotion of awareness and uptake of, for example, new sources of energy, the ET demonstrated by projecting them out of the places of generation and distribution, and reducing them to a one sided 'model site' out there; e.g. the stakeholders are lectured about a wind turbine. In short, the dynamics of engagement between individuals and their surroundings are taken away from the material site of the encounter. They are 'abstracted' into a demonstration mode specialising in one of the favourite 'objective' parameters, from displays of wind turbines to shows of energy conserving buildings.

The purpose of this study is to develop an object-based context-driven model for defining and communicating the ET. It aims at accounting for the encounters of the 'stakeholder', of a human individual engaged with a living place. Such models have already

been implemented in undergraduate and postgraduate projects at the University of Newcastle upon Tyne and elsewhere.

What does the 'meta-designer' want to happen to a distracted Self in order to abolish or to suspend the 'schizophrenic flaneurism' that systematically destroys life on this planet? What, to put it bluntly, are the 'encounters' between humans and things that 'count'?

Every time a city wayfarer notices the wings of a butterfly sitting on a window sill nearby, the turn of the Le Corbusier staircase or the frightening curve of a corridor of power, the blinding closure imposed upon the mind running according to a quasi-machinic protocol (timetable, map, appointment schedule) is weakened, suspended. The mind is open to 'see' the place 'as it is' - be it only for a moment - not as it appears in terms the patterns of perception, viewing, ordering learned or imprinted upon the unconscious by daily exposures to timetables, manuals and other technical routines that dominate much of what we call life. This dynamic openness is a necessary condition for openness to self-recognition, but also to invoking a raw instinct towards stability and mutual respect. It diminishes the grip upon the mind of the closure characteristic of knowledge (scientific, social, economic) systems. It grants something similar to Aristotle's 'nature' to every-thing! This is not a sentimental call for returning to the golden age of Aristotle or for re-enacting a Heideggerian essay about thingness. The simple message here is that in this approach the divisions routinely imposed upon us must be suspended so that the mind is at least temporarily in a 'monadic' state, capable of taking the world as something undifferentiated and therefore stable; the stability is guaranteed, say, by the granting of dignity to the wings of a butterfly instead of 'seeing' it at the bottom of the Darwinian hierarchy of the species. In the business of making sense of what humans do, this approach suggests that "energy" is not just in the act of, say, "power generation" (burning oil or carrying a burden, i.e. "KWatts"). It is also the energy consumed in the course of learning and recognition, distribution and networking, and their impact on constituting a "place" (by noticing the butterfly!). In the jargon of academic discourse these are the positive and negative, self-organising, "entropy" components of the energy-human interface! It is then possible to bring the generation and distribution of a particular event-energy into a wider context, to begin meta-designing a 'sustainable' human-place interface. The questions an architect or sociologist asks acquire a different meaning. They invite the designer to create

an integral picture of a place, of the monadic content of the place; It is 'place' as a site containing the imperfect ir-realisation of the world. It is charged with the responsibility for its own sustenance, for its survival, i.e. it is automatically linked to problems of stability and sustainable development since there is no outside, no agent to delegate it to. The meta-designer is now in a position to address the usual operational questions in terms of the mechanisms that give an empirical meaning to the visible and invisible rails along which events at that site move and change. What are the processes and the impact parameters chosen to define the event under consideration? Are dematerialisation, virtualisation, de-personalisation actually taking place? If so, what are the mechanisms controlling them? What is this bridge (theatre, school) made of? Why, was it really necessary, what were the risks, costs? Who built it, who designed it? What do the relevant Establishment criteria for sustainability depend on, who uses them, and who benefits from them? How do they frame decision-making processes?

## **Space Warps and Meta-Design**

Since the point of departure for developing the theory here is the shift from the transparent, perspectival space to networked subjects and quasi-objects, the space and time are no longer smooth independent variables – Descartes' coordinates of position or Kant's' forms of perception'. Instead, *thought and sensory perception are given spatialised and temporalised forms, a 'dynamic extension'*. The source of change is then the knowledge of a mechanism of change, of evaluation, etc. *detached* from the system of thought in which it originated (for example mechanics, thermodynamics, statistics). It is transferred to a new, different territory of application (for example to a design of a building, street, to making a large sculpture) and made fit the experiential thought-events associated with this new territory (mechanisms of building up matter, pathways of information). Whereas the model of, say, the solar system enjoys the precision and full mathematical rigour (closure!) when applied to the study of planetary motion, it loses this rigour when it is used, for example, to argue that sphericity might serve as a model of perfection.

This lack of closure opens the model to re-design, re-interpretation, etc. Yet, in return for the loss of true meaning, this

act of re-territorialisation, of transfer of ideas from one domain to another without asking whether the conditions of applicability remain satisfied - so common today in design and in artistic expression in general – is effective in breaking the flow of impositions upon the self of objectivised structures that minimise the subject's creative, indeed existential room for manoeuvre. This then becomes a substitute for the absence of consensual, traditional (apparently stable) symbolic structures familiar from the pre-modern eras. The dread of the unknown is now externalised not in mythical symbols and fetish objects but in *spatial warps*, in instances where space (life, place, knowledge system) is not transparent, where space and time are not smooth but warped, where the flow is interrupted and suspended. The warped space (Vilder 2001) is a particularly fitting symbol. It is symptomatic of the human condition of today that a powerful metaphor employed by a theorist of culture has its origin in theoretical physics. Again, space-time 'warps' in cultural theory lack the mathematical closure. Vidler invokes this metaphor because for him a rupture in an otherwise flat flow of spatialised events is better thought of as a collision which captures in a vivid image the blurring of the Cartesian separation between the objectified artefact and the individual experience of it, between the formal and the individual (psychological).

This metaphor can in fact be taken further to recover a *prescription* for unravelling the content of the warp, for identifying, recording, interpreting and bringing together the contributions that constitute the 'warp'. By analogy with the method of scattering theory the mind contains (the memory of) superpositions of virtual (in this case thoughts, aesthetic theories, feelings) and physical (in this case touching, hearing) states that contribute to the building up of the warp, that constitute the 'existence' of the collisional event. It means that the wayfarer 'discovers' his psyche in a building or in an obelisk by projecting (a fragment) of a narrative, knowledge, memory of an event upon the site of action; just as in the formalism of the quantum theory of scattering an energetic particle recovers in the collisional event the 'memory' of a multitude of states it had as well as might have possessed (e.g. Wu and Ohmura, 1962; 305). Hence the 'warping' enhances and ultimately dominates the 'meaning' of the encounter, of 'place' and 'place-ness'. In general, every such interrogation of a (virtual or real) territory successfully translated by the mind into an encounter with an 'object' suspends the flow of the objectified interactions driven

by the movements of network mediators, material and spiritual exchanges, of the techno-scientific society (e.g. Jaros 2003). In this unique '*onto-poetic*' moment of personal freedom the viewer can play, create, 'live'.

What precisely are the processes that turn knowledge and knowing into fragmentary narratives that constitute the assemblage of the things and the self, the living place? Inversely, what must the meta-designer concerned with developing a downtown theatre complex, a sitting room, a multi-media performance consider in order to optimise the opportunity to make a living place today?

The shift from a stable, static universe of Kantian subjects and objects to a dynamic, contingent, spatio-temporal assemblage is also a shift from design to meta-design. A meta-designer is a model of a future knowledge worker – an interrogator of knowledge systems, facilitator of living places, animator of modes of individuation; a creative narratologist of personalised pathways of life activities, a bodily event manager in a networked society (e.g. Fischer and Scharff 2000, de Kerckhove 2001). Meta-design - here meta means about, more than - is an approach to creative activity and to life in general that acknowledges the 'openness' of contemporary knowledge systems. The strategic recognition of this openness amounts to a move beyond the modernist-Greenbergian closure imposed by the demand that the 'critical' content be the decisive measure of the creative act (e.g. de Duve, 2000). One way to understand such changes and their implications is to map the *mechanisms and their functions* deposited in the minds of humans (and in popular and high cultural artefacts) by the advancing and ever present techno-science (as attempted e.g. by Omar Calabrese 1992). It is these mechanisms (of sequencing and repetition, limiting and stabilisation, free motion and dissipation, algorithmic writing and re-writing, composition and decomposition, ordering and dis-ordering, measurement, embodiment and classification, etc.) that in the course of the last century or so became commonly recognisable and used. They have been gradually replacing 'traditions' as drivers of creative and habitual practices (Jaros 2002). For example, the mechanical age (from the industrial revolution roughly to the first decades of the 20<sup>th</sup> century) brought into design materialism, calculability, mathematisation (quantify, measure, classify), in depth scrutability (atoms, molecular processes), objectivity (scientific method, tests)



and computability. Later, the 'post-mechanical' age with its fractals, internet, nano & geno technologies, large scale computer modelling, simulation and robotic intelligence, automation (reproducibility, repetition, re-designing), brings about wholesale fragmentation and loss of direct links between things and images, between concepts and signs. It follows (Crary 1990, 1999) that the concepts of attention, perception, measurement, body, experimentation, distance, extension, interval, presence, limit, approximation, uncertainty, locality, that is the core vocabulary of any account of a creative act depend more and more on the driving mechanisms and meaning generation originating in the techno-scientific models of the world. This is so even if they take on a form often distorted beyond recognition by the process of transferring them from their original context into the realm of metaphoric or allegorical application (for example in the arts and literature, e.g. Jaros, 2003)

### **Models of Living Places**

As many argued (e.g. Crary and Kwinter, 1992, Vidler, 2001, and references there in) the vocabulary of the Enlightenment is replaced in high modernity by the vocabularies of decomposition and displacement, distortion and fracture, void and block, re-assembling and de-composition, framing and codification, mediation and re-constitution. In this world the self resembles a moving packet of concentrated energy caught in dynamic spatial systems beyond its control. It is a spatio-temporal quasi-object in a state of anxiety, of nausea and existential angst.

The onto-epistemic concept of a dynamic assemblage of interacting humans, things and ideas much discussed, for example, by the authors of *Anti-Oedipus* (e.g. Deleuze and Guattari, 1994) suggests a model of the human environment as a flow of generalised energy analogous to the treatment of interacting bodies used in theoretical physics and invoked in the above paragraphs. The sites of such collisions are superpositions of localised virtual and material interactions – spatio-temporal instabilities or *warps*. By analogy with the quantum mechanical analysis, the meaning of a place emerges as a superposition in the mind of fragments of narratives that suspend the flow of incomprehensible energy at the physical site of encounter. The larger the number of interactions and the stronger their match to

the place in question, the longer the onto-poetic interval of freedom the larger its lifetime. Here there is an opportunity to make connection with the notion of an effective radius of 'free play', with the 'elbow room' or 'play room', the Smarsow-Benjamin Spielraum (Vidler 2001; 4 and references therein). It is a measure of a creative engagement with the material world. It also gives an empirical meaning to the assemblage of the self, place, and the interactions binding the assemblage dynamically together as a quasi-object with an 'extension' and a 'story'. It is *empirical* since it is something that can be established by observing and recording the effect of each individual interaction mentioned in the above paragraphs. This offers an opportunity to develop pragmatic models that may be instrumental in revealing the specificity of 'space warps', in finding their link to concrete techno-scientific models of the world, and in pointing to their usefulness in meta-design in a specific site situation.

In such an outlook architecture (design in general) is a way of *creating space*. This concept of space that had originated in the 19<sup>th</sup> century theorising became the leitmotiv of the late modernity (Lefebvre 1991, Harvey 2000, and references therein). It opened the way for new conceptualisations of space and place-ness. It is worth pointing out that most heroes of high modernism, for example architects Le Corbusier and Mies van der Rohe and philosophers Walter Benjamin and Martin Heidegger, thought that this 'end of perspective' would be *liberating*, that it is a way of moving beyond the limits of the 19<sup>th</sup> century system-building, e.g. Hegelian or Marxist. It was a leap into infinity, into a limitlessness which they (and most of the avant-garde artists) thought was a key aspect of mature modernity or at least a necessary condition for humans to redeem the original richness of being and the fellowship with nature. Instead, it soon transpired that a new and even more threatening void has been opened. It brought back the memory of Blaise Pascal's horror of falling into an abyss (on his left) and other phobias made famous by analysts from Freud to Lacan (e.g. Freud 1974, Cole 1995, Vidler 2001). A string of concepts attempting to capture the existential angst created by the 'thrown-ness' of the modern self followed as the expansion of urban civilisation and domination by technology accelerated, e.g. 'estrangement' (lack of unity, transparency, pathological deformation of technological achievements and bodily life) of modern space, 'distraction' as a the mix of hidden influences at work in the observing subject to render the place unseen or un-see-able, and the 'optical

unconscious', the absent mindedness of the new solitary walker (Benjamin 1985). And then there is a long list of the so called neo-baroque effects (e.g. Buci-Glucksmann 1994), the spectacle and horror, the chaotic and the labyrinthal, the time machines, the pan-geometric applied to a wide range of design tasks in architecture (Lynn 1998), the psycho spaces and the latent violence and criminality of the megalopolis unleashed by the dissolution of the body into the flow of time and matter (e.g. Soja 1996). Yet it is often argued that the perspective is still apparent even in a virtual reality environment. Ostensibly the computer screen does look like Alberti's window. Alas! A millennial shift has taken place. What has been added is the multitude of manifestation of the models of the world, of real and virtual depositions of anecdotal layers of meanings all of which combine in the mind to re-define 'viewing', 'perception', 'attention', and the boundary condition for the motion of the view as well as the image in any practice of 'viewing'. It is well to be reminded (Vidler 2001: 5) that in fact much of the avant-garde experimentation in arts and human sciences – including philosophy – may well be seen “to mirror each successive stage of technological development ...” These are attempts to give meaning to our experiences of urban modernity that are inseparable from efforts to account for and represent even the unrepresentable manifestations of techno-scientific advances anywhere from theoretical physics to warfare, from the communication media to consumer practices. What then one deals with is not so much the 'object' to be observed but the *sources of the vision process*, the *technique of the observer* (e.g. Crary 1990, Jaros 2003) who in Alberti's day was just a projectionist with a bit of intuitive and largely unconscious possession of 'cultural theory' on the side.

### **Archaeological-genealogical Agendas and Research Programmes**

To recapitulate, the warping of the smooth perspectival space marks a process of post-Cartesian thinking, of a new discursive quest for place-ness as well as self-ness. The rapid advances of new technologies exposed the growing gap between the material life and the images and narratives of life inherited from even our recent past. Such traditional sources of identity and creative expression are being replaced by the mechanisms that echo the techno scientific re-moulding of life on this planet. What is the

*narrative content of such space warps?* How does it reflect the models of the world whose signatures inscribe if not shape directly both the material as well as conceptual dynamics? How do the collisions between things and bodies translate themselves into self-recognition, into design methodologies? Satisfactory answers to such questions have yet to emerge. They may be instrumental in providing useful guidelines for designing a human environment better adjusted to the conditions of the post-mechanical age. Below is a preliminary sketch of some foundational principles for developing such answers.

For Descartes and Kant the rational human is a digital logical machine. It is measured by the manner the analytical power is exercised (proofs, syllogism, sequential processing of objectified data). When the soul was taken out of religion there emerged in its place the science of memory, behaviour, and the technologies of making, re-making and maintenance. Today knowledge appears to us homeless, its source hidden by multiple manipulations and transfers from one domain of application to another. It is said that it appears to us in the frame of re-territorialised models of the world. But these models cease to be mere concepts or metaphors once we attach a '*function*' to them (Deleuze and Guattari, 1994; 33), i.e. we do something according to them, we project them on a new territory so that the narrative component can be graphically documented. As a result there are now *numerous levels of embodied self*: the material self of molecular biology, of cell biology, of neurons and neural nets, of viroid penetrations and scaling, of maps of physiological centres of activity and their systems that spread over the whole body, of genes, of therapy and design based on computer modelling and artificial intelligence, etc. (Crary and Kwinter 1992, Pearson 1997). The self in fact becomes a material construct (spatio-temporal machine!) whose future needs will be repair, reconstruction, re-arrangement, even re-design, and which will be in a constant process of change and networking (e.g. Goldberg 2001, Mackenzie 2002). Each such process of measurement and embodiment, each transformation carries with it a string of narratives, some quasi-technical, some cultural-genealogical and many personal. *It is these narrative contributions that must be linked to the way the space warp is formed at the site of the bodily encounter.* In searching for its identity and for the meaning of its existence the self then works the way an archaeologist-genealogist uncovers a buried city. It removes matter and thought layer by layer and in the process re-

constitutes the place. The meaning and existence, 'place-ness' (but also the Self's 'lifestory', its 'narratability', e.g. see Jaros, 2005 and references therein) are then derived by reconnecting the fragments unearthed in the course of the creative ploughing through matter, by invoking theories, histories, genealogies of other places and events, and projecting them back upon the raw artefacts, on the material place. The result are 'knowledge maps' linking the concrete data or design features (positioning of a staircase, a through view, the geometry of gates, corridors or walls – to use naive examples) to the narratives they invoke in the mind of the viewer (memory of an agonising event, exposure to a baroque paintings, knowledge of the quantum theory of photon transport, tunes from an opera) and to the means the viewer chooses to express this link (going away, settling down in peace, writing a poem, etc.). It is such maps that would assist the meta-designer in maximising the 'living potential' of a place.

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