

## **What happens when the techno-human meets the city?**

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Abstract: When we begin to look at the constitution of selves and places in the city and the relation of global to local and subject to collective, we have to first put the matter of space under the microscope. This paper begins the task of investigating the implications of understanding the subject in a new space – no longer the objectivized Cartesian space which makes of the city and the world a singularity, but the ‘objectively subjectivized’ space of the event that makes of the world a vital and self-organizing multiplicity.

### **The Cartesian subject**

We assume to begin with that the individual or subject is always subject to some frame within which subjectivity is formed or constituted. There is always a mirroring and the collective and the subject’s recall of him or herself is captured firstly here though this fact may not always be immediately obvious to the person recalling. We are talking of media here and the conditions of our knowing or recalling anything at all; there is simply no unmediated existence. Today our existences are mediated to a large extent in something more specific we also call ‘media’: electronic, communicative, broadcast media and the spaces and times of these effect a massive change in our understandings of ourselves. This could be the subject of this paper but I think perhaps there is something else to do in a more general way with the spaces and times of our subjectivities and inhabitation of the city – which would be worthwhile exploring first. This is therefore an attempt to clear the decks so we can get on later with the more interesting stuff. It is about how we are becoming ecological or eco-technological or cybernetic in a fluid relational space and it is about how our subjectivities may be essentially fluid things, formed in relations rather than in opposition to what is not us – Nature say.

The modern age is characterized by a concern with the humanistic and liberal individual. This individual is seen through a conceptual apparatus that has become hegemonic and habitual and difficult for us to see beyond; it is one that is also difficult, for now, for us to live without, but as I hope to show, is not the only apparatus at our disposal for looking at the subject and his or her identity. All our social institutions are subject to this idea of an all-embracing individualism and many are given definitive form by it: democracy, for example, is based on the aggregate of individual wills as imagined by Rousseau; productive activities are understood as being geared to the individuals’ choices or preferences – or, at least, are pretended to be so. The ideas of man as ultimate reality, and as ‘master of the universe’ underpin the notion individualism in modernity, producing abstract individualism in liberalism and the individual in the political arena as a democratic citizen. Many commentators see this individual as linked to the postmodern trend toward nihilism through the decentering of the individual and the atomizing of the social world – resulting in a ‘plurality of worlds’ each constructed precisely

around these decentered individuals. Many feel a need, indeed feel it a necessity, to re-invent the concepts of the human person and community such that they may become mutually constitutive of each other. It could be argued that the matrices of our communicative and public spaces and our communications technologies, offer a different cybernetic frame in which to investigate the formative dynamics of subjectivities and collectivities in relational configurations of communication.

What I want to do here is try to open a way to begin to look at these problems of the person, or the subject, and the collective and their mutual constitution in a different relational (or cybernetic) perspective. The distinctions which support the humanistic subject are, I would argue over-stable and overdetermine their object. They are tied to a space-time which is thoroughly stabilized and objectivized, and in order to study change, we need to find a frame in which change rather than stability is the base-line condition. I could even begin to suggest that 'we have never been humanistically individual anyway' or alternatively 'we have always been cybernetic', so that eventually I may link these issues to a dynamic of transformation or morphogenesis of the subject and the city through history. What I won't be arguing for of course is an equation of the 'medieval cybernetic individual' or the 'renaissance cybernetic individual' with the modern or postmodern one – what I want to do is try to open a different window on the formation, co-formation or co-evolution of two realms of transformation, the urban and the social so that we can study the different configurations that constitute these two domains, their changes over time and their relations with each other. This aim will demand of course a reframing in relational terms, not just of the subject, but also of the city.

We could say that the birth of the modern individual was concomitant with the secularization of the medieval world and led, according to Weber, by a 'privatization' of the path to salvation ending in an increasing differentiation of religion from other spheres of society. This emergence of the secular self necessitated the reconstruction of the individual identity through the creation of an secularized perspective, freed of cosmic ties, but firmly anchored in a worldview that accommodated the voluntaristic individual. The Cartesian subject, emerged as a self-contained entity which was, according to Victor Segesvary able to claim to be the sole link between the differentiated segments and spheres of society.

Liberalism granted absolute primacy to the individual and to the intellectual powers of man and with liberalism came an individualism which invaded both the private and public spaces of society's life. As John Dunn sees it: "Bentham and James Mill saw a liberal individual politics as a logical outcome of the broad intellectual methods authenticated by the progress of natural science. A mechanical conception of human nature, an egoistic psychology, a purely instrumental interpretation of the character of social and political relations, were all the proper outcome of the scientific attitude towards man's place in society and nature. They were the product of a rational interpretation of experience and an experientially grounded concept of reason."

Society being an ensemble of independent, self-contained entities, each pursuing its own interests, other beings became objects standing over against

one's own self. In the liberal conception the individual is, thus, predominant in respect of any collectivity. 'Atomized' individuals are, in order to safeguard their autonomy and independent identity, only externally related to each other, in a way that others should not be able to influence their constitution but leave them unchanged in their 'essence'. We see a rigidifying of the account of the relationship between individual and collective into terms which preserve identities and deny the possibility of their mutual interpenetration.

Anthony Giddens describes the life history of an individual as a reflexively organized biography, as a spatial and temporal trajectory, expressed by a cluster of habits and practices. This trajectory spans over various institutional settings of contemporary social life. The dialectics of the local and the global corresponds to the dialectics of the self and the society. This dialectics is complemented by a self-reflexivity of individuals, meaning, principally, the loss of collective memories as well as the elaboration of single, monolithic value-systems because exclusively oriented to the individual's own 'inner logic'. We see the atomization completing itself in the opposition of collective and individual 'inner' logics, and solidifying in a denial of any interpenetration of global and local (or of the universal and particular). This separation is 'institutionalized' by the increasing distance and inaccessibility of collective institutions from the individual. The individual loses entirely his or her constitutive power in any global or universal and becomes merely a trajectory powerlessly subtending local surfaces or 'interfaces' of a distant global.

The individual became nonetheless highly dependent on these global or institutional constructions which in a sense become 'environmental' or 'medium' to individual lives. Segesvary argues persuasively that "man, the individual, gained a very large independence with the advent of modernity, but this independence was slowly transformed by the multiplication of abstract, self-referential systems into a new, different type of interdependence, never known before, which concomitantly increased the vulnerability of the individual. This is true even if individuals today are benefiting from an undeniable measure of reappropriation of possibilities to master nature and to improve their own conditions by having multiple alternatives and plural choices (the 'pluralization of lifeworlds' in Peter Berger's words)."

Postmodernism is identified as an age of transformation; there emerges a general search for personal and collective identity, for secure moorings in a shifting world as the individual's insertion 'into a multidimensional set of radically discontinuous realities' (Jameson) becomes more and more difficult. The only possible conclusion seems to be that postmodern individual lives evolve towards nihilism, "the fulfillment of the deconstructing and de-structuring enterprise which represent the logical outcome of the 'reign of the individual' itself." This is consistent with the postmodern view of life as fragmented and incoherent in itself. Following the total breakdown of the reign of the epistemic and liberal individual, and the menace of a creeping nihilism which can lead to a dissolution of the individual itself, the future can only be envisaged as an endeavor to re-create the symbiosis between the individual and its community.

### **A dispersion of space-times**

But Segesvary, in his admirable analysis, finds himself locked into a certain presumption about subjectivity itself, the effects of which appear at the same time to be the thing he is trying to escape in his subject. And this is in spite of referring to one writer who on the face of it holds a different view on subjectivity. The question is: what happens if we start regarding subjectivity not as some sort of interiority, not as an essence of some person, not as an inalienable attribute of a well defined thing, resistant to change, but rather as an effect of a relational system. We may not answer all our questions about but we certainly open a different perspective on what the possibilities may be and one which is geared to change rather than stability. Foucault describes contemporary reality as heterotopic; “the coexistence of an infinite number of fragmented, juxtaposed, possible worlds, incommensurable, superimposed on each other. Such a picture of the coexistence of multiple, incommensurable worlds is reflected by the fact that no determinate and identifiable relations between signified and signifier exist any more, and message as well as medium are continuously newly combined, changing the physiognomy of language games. In the age of such a fragmented cognitive state everything is questioned in respect of being; the main concern, in Foucault's words, is ‘to grant the highest value, the greatest dimension, to the distance that both separates and links thought-conscious-of-itself, and whatever, within thought, is rooted in non-thought’.” (Foucault 1973, p. 324).

We see at work here the ‘dispersive’ structuralism referred to by Hayden White. According to Foucault, he and others, “re-examined the Husserlian idea that there is meaning everywhere. ... And ... we dedicated ourselves mainly to the analyses of the formal conditions of the appearance of meaning.” He is concerned with finding the constitutive structures of subjectivity and does not see subjectivity as originating in the subject – as internally interpreting any external reality, or subsumed to an extrinsic space or extrinsic structures of transformation (or society or culture or economy, or whatever). What Foucault intended as the space of his world construction is in any event captured succinctly in his notion of the heterotopia. We find ourselves searching for the orders of things not in some kind of universally intelligible structure, but in everywhere particular heterotopic realities all with their own quantized space-times. The world begins throwing up divergences and attention is forced to move from a world given in structures of reality to one given in far more mobile constructions of reality. We find ourselves searching at the limits of what it is to be human – or perhaps just there:

Integrative structuralism appeals it seems to an imagination integrative of the world and moves us towards a revealing of that singular world and its processes in a unified space and time, whereas dispersive structuralism is suspicious of this positivistic impulse and more concerned with the way we generate perspectives. It is concerned with the way we partition the world so that perspectives conceal, or make not available to us, any singular overarching reality of the world. Some structuralist ways of thinking may end up leading us towards a systematization and a reductive unity of the world which is not sustainable, and which erases the multiplicity which arises out of a relational materiality and out of situation itself.

We find that we may begin by imagining that in a relational view of the world, everything is going to become subsumed to a unity, implying a sort of continuity of everything, like the collapse of a boxful of magnets into a singular lump. In fact the effect may be exactly the opposite – that is to establish radical discontinuities between ‘universes’, whole realities constructed on the basis of differing perspectives. In fact, we may find that if we begin by understanding the world as composed of transparently and externally real structures (of transformation or of society or whatever) that we need to reflect somehow in structures of consciousness, we are bound to unify, or understand there being an underlying unity to, all conceptions of the world. If on the other hand, we understand realities as being constructed as systems all with their own systematicity and logics of their own relations – not therefore referring in the first or last instance to any external structures in the world but only to a logic of the construction of that particular reality – then realities (which we may know also of course as discourses, paradigms, epistemes) will tend to isolate themselves heterotopically as different worlds. Clearly, what is understood as ‘fragmentation’ in the postmodern discourse needs to be looked at a little closer.

There is another and related problem with the viewpoint of Segesvary and many of the writers he refers to. This is the assumption that the global and the local exist in a dialectical relation to each other. We will see that in a cybernetic perspective such an opposition simply doesn't exist. In fact the universal and the global are already in the particular and local – by virtue of the way we construct our worlds in the very act of our perception of them. If we look at the perception of Merleau-Ponty for example we can see that in the kinds of order that construct realities – where we could say that the very fabric of that reality is woven from within the system – local parts cannot be isolated from a global whole. There are, in fact, no local events at all in the way we commonly understand these; there are only global events which draw together organism and environment in an involvement. “[E]ach local change in a form will be translated by a redistribution of forces which assures the constancy of their relation; it is this internal circulation [of organism and environment's mutual incorporation] which is the system as a physical reality. And it is no more composed of parts which can be distinguished in it than a melody (always transposable) is made of the particular notes which are its momentary expression.”

### **Beyond a dialectics of global-local**

So the universal and the global may already be in the particular and local in the way we construct our worlds in the act of our perception of them. Our world today may in principle be available to us by the same processes it has always been, but our world today is far more available, at least for some of us, than it has ever before been. We are not simply local – the limits to our imaginings of our places in the world is not given any longer by the literal horizons which surround us. The spaces we project onto a world ever more accommodating of some of these projections go all the way to the global. We can think of ourselves as global inhabitants as well as inhabitants of more limited geographical realms; we construct realities for ourselves within metropolitan, continental and global horizons, and we inhabit many places

where we realize those imaginings. The global space by which we understand the world may be a scheme we project into a world of movements and openings and convergences and tendencies – it may be a factor of our perception of that world, but it becomes also a factor of the systematization of the world and its potentials for multiple realizations within a frame defined by that systematization. The situation is of course complicated by the way our technological world becomes not just available but also medium – what we know and what we may know is implicated (literally enfolded) in the space by which we know.

Tim Ingold argues that the difference between global and local views has nothing to do with scale or comprehensiveness – the local is not defined by being a more limited or narrowly focused view than the global, rather it is of an entirely different kind to the global. Whereas the global view is a “detached, disinterested observation of a world that is merely occupied”, the local view is “one based on practical, perceptual engagement with components of a world that is inhabited and dwelt-in” – it is a perspective on the world tied to particular action and intention. From an experiential center, the attention of those inhabiting a local place is drawn into the world in a quest for knowledge and understanding. “It is through such attentive engagement ... that the world is progressively revealed to the knowledge seeker. Now different centers will, of course, afford different views, so that while there is only one global perspective, indifferent to place and context, the number of local perspectives is potentially infinite. This does not mean, however, that they are in any sense incomplete, or that they represent no more than fragments of a total picture. It is only when we come to represent local differences in terms of a globalizing discourse that the center from which each perspective is taken is converted into a boundary within which every local view is seen to be contained.”

Ingold goes on to suggest that the dominance of the global perspective marks a triumph of technology over cosmology. Cosmology places the person at the center of an ordered universe of meaningful relations. Technology on the other hand is seen as the facilitation of a globalizing drive by means of systematizing networks and infrastructures, and it finds a way to enable the separation of society and the physical world, and the domination of the first over the second. “Cosmology [according to Ingold] provides the guiding principles for human action within the world, technology provides the principles for human action upon it. Thus as cosmology gives way to technology, the relation between people and the world is turned inside out, so that what was a cosmos or lifeworld becomes a world – a solid globe – externally presented to life. ... It is a movement from revelation to control, and from partial knowledge to the calculated risk.”

This is not the end of the way we deal with technology though because it is abundantly clear that technologies also participate in contemporary cosmologies. Our technologies become factors in our perspectives on the world, and part of the way we are situated in a global world. We may construct our places on the basis of the perspectives our technologies afford us. The displacement of ourselves from the center of the world we inhabit is tied with scientific habits of decentering. But we also have to deal here with systematization – with notions of network and system, and the technological

in the way it contributes to the formation of our perspectival worlds. We need to try to look at networks and systems also as ideas and models, carrying with them sets of presumptions about the apparently natural and automatic effects and functionalities of these things.

### **The cybernetic organism**

We find some of the strongest constitutives of the network and system notions, as we understand them implicitly and intuitively today, in cybernetic and ecosystem ideas. There may indeed be something biological and organic about all this at the same time there is something difficult and often problematic about the ways we characterize the biological in systems thinking. Cybernetics was set up as “the science of communication and control in the animal and the machine”. Cybernetic technologies are understood as being able to monitor their own internal and external states and adapt in response to changing conditions. They self-regulate by way of information feedback, a capability held to be fundamental to both natural and artificial complex self-organizing systems. A general history of cybernetics is well known but what is less known is a line of cybernetic reasoning that I am going to gather around the name of Gregory Bateson that treated identity and subjectivity in a way which opened it up to a very different conceptualization and operationalizability.

Ecological network and system ideas have had the effect of blurring our distinctions between man and nature, and this reframing of humans and their constructions has had a substantial influence on the way we have come to perceive our relationship to both nature and technology. However this relation clearly also has a strange double aspect, in that humans and machines are at the same time part of the system being analyzed, and producing the images and systems that construct that analysis. They seem to be both inside and outside the system at the same time and this can set up some powerful contradictions. The image has, whatever good it has done in mobilizing our concern about our environment, also participated in a decentering or de-situating of our view on our world and our place in it. The image of the global ecosystem has served to objectivize our view of our place in the world, and I have argued elsewhere that this objectivization may be a somewhat illusory quantity, and that there may be consequences. Such a decentered view loses touch with the perspective from which such an analysis is constructed, and with our role in framing that ‘objectivity’. It may go further than this: it may also lose touch with the stuff of the world in its generative and formative reality and in its multiplicity – it may lose touch with the organic of the world as a real aspect of the way things are and the way they come to be. The multiplicities afforded by situated viewpoints, and especially viewpoints from the ‘inside’, are at the same time erased in this decentering – at the same time the dynamism of the thing is lost in its reduction to a too static and stable and too unified systematics.

Norbert Wiener was committed to the view that order was the obverse of noise, but there were others who saw more quickly that it could be precisely what looked like the messiness of the world which underpinned the rather disorderly vitality of real-world systems. Gregory Bateson, a co-participant

with Wiener in the Macy conferences of 1946-53, had by 1958 written a paper suggesting that the caprice of nature was fundamental to every process of adaptive development. Bateson, in criticizing von Neumann's game theory, pointed out that the theory eliminated the very disjuncts and disturbances that were a necessary part of real systems in order to drive their creative or generative evolutionary capacities. The 'caprice' factor was the very thing game theory eliminated in its set-up: whereas the utility system in game theory was stabilized, Bateson argued that the utility systems of real organisms and organism-environment systems had, for systematic reasons, to be labile – to avoid being tied into a state which allowed nothing new to emerge.

Bateson went beyond a simple negative feedback. He proposed that increases in complexity involve layers of interlinked information with inputs and outputs reflexively structured to facilitate a "compromise between a utility based upon the smaller gestalt, the individual, and a utility system derived from the larger unit, the community." So that "the inner functional topology of the circuits which determine behavior comes to be a reflection of, or a microcosmic diagram of, the total matrix, nature, in which the microcosm is embedded and of which it is a part. ... It looks as if, in truth, every organism is of necessity created in the image of nature, or should we say creates itself in an image of nature under her strict jurisdiction."

Reflexivity in all of this plays the role of taking the system beyond what is immediately specified in a system – in a sense of making the system capable of generating its own novelty. It was precisely that which overflowed any exact bounding of the system or problem domain that seemed in fact to specify the human in any human machine, and scientific thinking had to find a way of going beyond what its language could clearly specify. This was the teleology problem – systems thinking had to somehow escape the tendency to overdetermine and predetermine its object; a tendency to systematically close that object into its fate for all time, discounting the real ambiguity and multiplicity and openness of the world. Most at the conferences however still associated reflexivity with an inner mental subjectivity, finding it difficult to understand or accept that ambiguity and multiplicity might be woven into the fabric of reality itself. There was nonetheless, at the conferences, the beginnings of an understanding that the observer had a role in constructing the system and that account needed to be taken of this.

Bateson was particularly concerned with the relation between the individual (as organism and system) and larger systems up to the level of the global ecosystem, and clearly understood by now that a major factor in the workings of any system was the purpose behind the setting up of that system. He had spotted that the system is already, in its set-up, skewed towards that purpose. Katherine Hayles notes that "purpose' ... became here ... a lens that consciousness wears and that distorts what it sees. Specifically, this lens obscures 'the cybernetic nature of self and the world', an obfuscation 'that tends to be imperceptible to consciousness'." What Bateson and a few others had seen is that what we focus on, and what we draw together in our attention, is an arc of causally related events leading to a goal preconceived by the observer. What is obscured is the rest of the cybernetic matrix that

constitutes the background to this arc. Embedding the observer in the system, or understanding that the observer is in any event already in the system, means that the distortion may itself become a systematic effect, and we can see how for Bateson cybernetics was becoming the interplay of these 'perceptual distortions' of system construction.

Bateson began to understand our systems therefore as structures of ideas that are biased in their set-up and constructed to an end, and set against a vast background of cybernetic relations which had been selectively excluded from the system. He began to understand his systems as figures of relative clarity and purpose against a background of a much larger and more obscure system that is nonetheless still implicated in what his system is objectively doing or may possibly do. According to Bateson, our worlds are self-constructions; "we are our own epistemology ... [a]nd our inner world is that epistemology ... Our microcosm is an appropriate metaphor for the macrocosm." Bateson is trying to deal with the problem of the ends and aims of systems – and to do this by systematically acknowledging where purpose and ultimately 'self' may come from. Bateson seems to have believed, like Wiener, that there was in principle an objective cybernetics of the world itself, but he departed from Wiener in believing that this cybernetics of the thing in and of itself had no necessary reason, no ultimate goal or end towards which it tended. He saw that any system we set up on the other hand, or any system with a perspectival 'subjectivity' at its center, had all of those things and was skewed to the subject's understanding and its purpose.

It is interesting to track these ideas against Whitehead's complex metaphysics – and here we see that for Whitehead the problem was resolved by seeing the organism as an event and understanding each and every event as the focus and producer of its own space-time quantum. Each event, in its becoming, is dealt with as a subjectivity in exactly the way we are starting to understand subjectivity in this discussion – as a somewhat objective situated perspective on the world defined as a cone of space and time focused on that situation – before it achieves objectivity as the background to the concrescence of other events. Here is how Elizabeth Kraus puts it: "There are two modes of process operative in the universe: concrescence and transition, micro-process and macro-process. In concrescence, the many elements in the universe ... achieve the private, subjective unity of a perspective, transforming the efficient causality of the past into the final causality of an emerging viewpoint functioning with respect to its own determinateness. Transition, on the other hand, represents ... its pragmatic afterlife as causally objectified in subsequent [events]."

Whitehead understands the problem as one of the coming into being of a unique space-time of the event and incorporates thinking drawn from Einstein's space-time relativity: "The problem dominating the concrescence is the actualization [of a spatio-temporal] quantum in solido", a solution made possible by the immanence of the subject in all phases of its self-creation. The subject is absolutely implicated in the whole process of the concrescence of the event and produces a quantum of space-time in that concrescence which extends over the extension and duration of the event and is indivisible. This quantum of space-time is interlocked with all other space-time quanta

because of its actualization of the general schematic relations of the extensive continuum it atomizes.

Bateson left his observer or subject right at the center of his organism, defining its own situated systematic 'distortions'. His 'difference' as well as of another order to the autopoietic difference of Maturana and Varela (the difference of the organism set against an environment). Bateson had recognized the generative role of noise: rather than being simply and negatively non-pattern, he saw it as being the only possible source of new pattern. He understood the origin of newness and creativity in the world as a generalized factor of 'difference'. Difference for Bateson was a quantity quite real but not simply of the extensive, dimensioned properties of matter – difference was the intensive to matter's well-spatialized extensivity. It was a dimensionless property rather like a ratio, that expressed the fact that matter was subject to probabilistic variations – variations in the general mobility and vibration of atoms for example (temperature variation) – that affected the distribution of forces in that matter. Essentially what he was saying was that there are differences in things which may not be simply different parts of those things – and there are differences which come before and are necessary to the very articulation of parts.

Difference becomes, we can I think easily see, the minimum condition for perception – there can be no perception in the uniform grey of entropic heat death. Bateson talks of a "difference that makes a difference", and though he continued to deal with a cybernetics related to psychology (this was the area of his interest at the time) we can see how this factor becomes significant in systems of ostensibly 'objective' rather than 'subjective' things when we realize that what we now call far-from-equilibrium thermodynamics is driven by intensity differences within the system. Difference becomes, when we start considering the matter in terms of thermodynamics, the minimum condition for the sustenance of a vital existence.

Classical thermodynamics concentrated on the equilibrium states of systems, when those systems had come to rest. Far-from-equilibrium thermodynamics looks at systems as they are continuously traversed by flows of energy and matter, generating formed dynamics which do not allow differences in intensity to be cancelled. While autopoietic systems, as homeostatic machines, are supposed in their conceptual set-up to involve a play of forces in which contending opposites attempt to balance each other, in fact the operation of any organic system necessarily presupposes a continuing difference between and among forces if it is to continue working. The system works in fact only as long as balance is deferred and collapses or dies once balance is achieved – once in other words differences are cancelled. The far-from-equilibrium system maintains intensity differences in producing a self-directed and progressive dynamics of the self-formation and transformation of matter, as a generative process in time.

Homeostasis was, we saw, a "process of keeping something at a stable, or stationary, value" whereas homeorhesis "ensur[es] the continuation of a given type of change" – it "preserv[es] a flow." In far-from-equilibrium thermodynamics therefore we understand a dynamic non-homeostatic – in

fact homeorhetic – machine which is able to maintain itself in a ‘steady state’ of progressive thermodynamic imbalance. These homeorhetic machines – the real systematic organism becomes now the whole organism-environment couple – are not bounded, nor even necessarily less extensive than Nature; they may in principle be coextensive with the total machine of Nature but they maintain a certain strategic disequilibrium (along with a certain strategic production of difference) as a constitutive of that machine.

The homeorhetic machine produces difference: in the nexus of flows we are in a continuous ‘unfolding’ of difference. “It is alive. Not with cells or respiration, but with vitality. To ask what living consists in is to ask about this vitality at the heart of things. ... If living is a matter of the unfolding of a vital difference, then the one that lives can be either less or more or other than a person. It can be a mouth, a gesture, a style, a relationship. It can be a group or an epoch. To embed the concept of living in people is to commit the error of ... believing that the proper perspective for understanding the world is centered on the human subject.” In fact complex real-world systems are much more than open, they are generative and productive – moving and changing by themselves and under their own steam (and producing more and other differences in the process). This is a point which takes us beyond Newtonian presuppositions of a universe which tends to separate matter and form and regard matter as the inert receptacle for forms that give things their powers of productivity or significance. It takes us also beyond postmodern presuppositions which grant matter even less productive power in a world whose objects come coded in a linguistic protocol. In the first case, the genesis of form and structure seems to always involve resources that go beyond the capabilities of the material substrata of these forms and structures, while in the second the world is amorphous and we cut it up into forms using language.

## **Identity**

One can begin to see that identity in classical thermodynamics is equated with the system or organism itself. Autopoietic systems identify themselves and maintain that identity by establishing and maintaining a boundary in opposition to an environment against which they maintain a balance. Bateson had on the other hand been developing a morphogenetic psychology of identity – a ‘cybernetics of self’ – that conceived of identity in quite a different way. In contrast to the completion of the organism in the closure of the autopoietic system – and the equation of this closure with identity – Bateson saw identity emerging much more dynamically and provisionally and being constituted in great feedback loops rather than in the more ostensible object of that identity. In Bateson’s words: “the word ‘cybernetics’ has become seriously corrupted since it was put into circulation by Norbert Wiener. And Wiener himself is partly to blame for the corruption of the conception in that he associated ‘cybernetics’ with ‘control’. I prefer to use the term ‘cybernetic’ to describe complete circuiting systems. For me, the system is man-and-environment; to introduce the notion of ‘control’ would draw a boundary between the two, to give a picture of man versus environment.

“We may ask whether a brain can think, and ... the answer will be ‘No.’ What thinks is a brain inside a man who is part of a system which includes an environment. To draw a boundary line between a part which does most of the computation for a larger system and the larger system of which it is part is to create a mythological component, commonly called a ‘self.’ In my epistemology, the concept of self, along with all arbitrary boundaries which delimit systems or parts of systems, is to be regarded as a trait of the local culture – not indeed to be disregarded, since such little epistemological monsters are always liable to become foci of pathology.”

The functional feedback loops, the ‘utility systems’ of Bateson, could act on and define different objects as we have seen – they can define the individual as a gestalt or the community or society. What they don’t do is define these by way of any necessary boundary. They define instead a hinterland of diverse interactions with diverse other objects. We also see a basis for a far more complex and interesting and ‘simultaneous’ space which includes the universal in the particular and throws in the air many of our pet assumptions about the order of relations between global and local and universal and the particular. Societies and civilizations are things realized on an ongoing level in particular places and not things or surfaces captured within boundaries. May it perhaps be our own instinct for closure that is the problem? Could our systems in fact not need to close in order to materialize their objects and organisms? Is an organism defined by something other than closure – is it something in principle much more leaky and open-ended? For Bateson, contra Maturana and Varela or Luhmann, being inside the system is something other than sitting on the right side of a system boundary – it’s a matter of being at the nexus of the appropriate flows or circulations, or perhaps better, of constructing and capturing the pathways necessary to the on-going becoming of the nexus.

The black box organism of the autopoietic system cannot exist for Bateson, except as “trait of the local culture” and “epistemological monster”. What exists for him are the circuits that generate the becoming of that nexus. Bateson’s “individual mind is immanent but not only in the body. It is immanent also in pathways and messages outside the body; and there is a larger Mind of which the individual mind is only a subsystem, ... immanent in the total interconnected social system and planetary ecology.” From here it is not difficult to see what Bateson means by his “ecology of Mind” and “Mind in the world.” If we push this just a little further, we can begin to imagine the emergence of macroscopic organization, capable of relating multiple events into great convergent movements, without there being any singular space-time or universal underlying it all, just the multiple space-time quanta of events. We can see how multiple nexus – translating as multiple multiple ‘subjective’ perspectives on any system are going to distort that system in multiple ways – while no perspective is free to lose its relations with the other perspectives if it wants to remain viable. Space-time quanta become tangled inseparably into multiple other space-time quanta, but maintaining all the while their own unique perspectives on things, and holding the system open at every level. We find eventually that what we conceptualize as inside-outside is simply an illusion – a consequence of a decentering into an abstract and universal space of an incessant switching of perspectives – events at the

'subject' pole of the perspectival space-time cone become objects in the cones of other events, and subject-object becomes folded reflexively into the very substance of matter. We may see in the end that under every apparent stability there sits not a universal law but a froth of reflexive particularity – and find that identity is simply a momentary capture in a loss of viable alternatives for a thick tangle of 'compossible' events that isolates one turbulent growth or movement from another.

Deleuze elaborates for us the shape of the thing we are dealing with: "For Whitehead ... bifurcations, divergences, impossibilities, and discord belong to the same motley world that can ... be ... only made or undone according to ... variable configurations or changing captures. In a same chaotic world divergent series are endlessly tracing bifurcating paths. It is a 'chaosmos' of the type found in Joyce ... . The play of the world has changed in a unique way, because now it has become the play that diverges. Beings are pushed apart, kept open through divergent series and impossible totalities that pull them outside, instead of being closed upon the compossible and convergent world that they express from within. ... It is a world of captures instead of closures.

### **From subjectivity and objectivity to events and speeds**

We begin to see emerging very quickly therefore, out of this notion of difference, a whole other 'construction of the world'. Up till now I have been considering 'construction' as something done in the generation of a figure in perception. What we are talking about now seems to say something about the conditions of difference in which perception takes place – and the thermodynamic machines that maintain those conditions of difference – and make perception, and a vital generative existence, possible. There is a level at which things are just happening anyway, as a kind of native background generative fizz of things. Perception is linked to the way things are in that it constitutes part of the process of 'selection' of ends or purpose or intentionality – but it acts in concert with these machines. Alone it is simply not enough to explain how things are and how we find them. The city always exceeds our perceptual construction of it – this is the origin of its occasional qualities of *unheimlichkeit* or strange unfamiliarity, and of its capacity for generation and novelty.

It is one of the reasons it surprises us constantly, at least in its more vital forms. It is also the reason I think it is possible to argue that cities, far from being a reflection of social forms, may have played a fundamental role in generating the social. Cities may plausibly have placed in front of us novel forms of encounter and interaction, which though they in the first instance may have been new or strange, have been incorporated into life patterns, opening new ways of socially relating and doing and elaborated further into social institutions. It may be one of the reasons we see changing social forms and new and unexpected ways of identification and encounter in cities today. Society may be a construction that begins with its realization in situation – and in a situated formative process – rather than in ready-made social structures that already determine their object. People may have had to be confronted

with certain possibilities of social collectivity and encounter before polis or civitas became seen as possible modes of social existence.

This leaves us with the result of having to deal with the identities of things in a new 'objectively relativistic' way – local phenomena become determinedly non-local in space and time, become emergent effects rather than things in and of themselves. They become *relata* rather than *materia*, and the precise definition of what that 'object' sitting at the 'subjective' apex of the perspectival cone is becoming, also implicates the observer, in that it begins to specify its 'intention' or end. Its 'is' is implicated in its 'will be' and any other 'will be' will implicate a different 'is'. The global which specifies a local effect ultimately includes not just its past (efficient causality) but also its future (final causality). It opens the historicity of things and leaves us having to analyze identity as an effect of its own 'perceived' space-time. Identity is related neither to any essence intrinsic to the thing, nor to any localizable systematic, nor indeed to any systematics in any absolute or 'objective' space and time.

In fact, notions like 'subjective', 'objective' and even 'perception' start to take on an entirely different color in a discussion of *relata*. All kinds of things, animate and inanimate, subjects and objects – all suddenly become what I have called 'objective subjects' in their becoming and 'objects' in the becoming of other 'subjects'. I already noted that we live in a world in which nature and culture (or the objective and the subjective) are becoming irremediably complicated: I already noted that such a culture-nature hybrid as the notion of 'ecosystem' already gives us a conceptual apparatus which allows us to look at our selves, our technologies and nature in a way which makes these terms (potentially at least) commensurable. But we should not expect that this ability comes free of any cost within any other system of thinking. We may find it difficult to express our well-known humanistic values, which necessarily privilege the human perspective, in a system of thinking which is designed to go beyond the human perspective to an order of a world we see emerging somewhat spontaneously, without a necessary logic of human reason, or without direct human steering, around us. We may find a related difficulty in prioritizing the phenomenological subject – ostensibly Merleau-Ponty's starting point, though I think it may be possible to argue that he goes also beyond phenomenology in the centrality of dynamic form and genesis in his system. It becomes in any event difficult to take seriously the Cartesian cogito as a starting point for understanding the world where this cogito becomes, as we have seen, simply a complex nexus, folding global functional feedback loops into a mythical local 'self' and 'trait of local culture'.

But I am concerned only to try to find another way of accounting for the production of identity and collectivity in a dynamic urban world. While a logic of our full involvement within a fully relational 'movement of the world' – unaccounted and even unseen within a frame which centers ourselves in an objectively singular but subjectively equivocal universe – may be something we have difficulty with in many areas, it doesn't necessarily have to provoke a metaphysical crisis when we are looking at the 'thing' of the city. This 'thing' is already known to us as an ecology and (eco)system; its 'objects' and 'subjects' are all selves and the places which situate subjectivity anyway. Selves and places in and of themselves just become less the issue in this way

of approaching the subject than the form by which they become – or the conditions by which selves and places come about as a product of formational processes in dynamic, difference producing, fields. What we are looking for is a process that involves time – that goes beyond structure which is a synchronic (in one moment) integration of the world, and towards a diachronic movement of that world in time towards form and integration. What we are also looking for is a process that presupposes no necessary end. This is where the theories of history and development which derive from Hegel fall down. What I suggest is that systematicity as it is normally understood generates its own closure, and that if we are to understand the urban system, we need to first understand that it is everywhere a product not of closure but of a radical crossing of lines of force in a difference producing machine. So that what we can speak of is just the point of those crossings. While the network and the system remain powerful concepts that will always inform our analysis, the dominant notion and the dominant focus of attention has to turn to the nexus. We need to shift from a habit of decentering which tries to take in systems as singular wholes, to a radical centering which finds the whole in everywhere particular and situated crossings in selves and places – crossings which brings to practical clarity all that remains always in excess of our knowledge and capacity for knowledge.

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