

Science, Information and Time

There are no whole truths: all truths are half-truths. It is trying to treat them as whole truths that plays the devil.

Alfred North Whitehead

It is necessary to go beyond all the pieces of spoken information; to extract from them a pure speech-act, creative story-telling which is as it were the obverse side of the dominant myths, of current words and their supporters.

It is also necessary to go beyond all the visual layers; to set up a pure informed person capable of emerging from the debris, of surviving the end of the world, hence capable of receiving into the body the pure act of speech.

Gilles Deleuze (*The Time-Image*)

Becoming unfolds along spatial and temporal symmetries. Biogenesis is the slow process of isolating extensive differences (from a million intensive differences) and making its form hard, becoming like a diamond or like a stone in the river — so that the difference become invisible to the stream, to the flow, but resists and therefore modifies the flow imperceptibly.

Slowly these tiny threads wrap together to form diffuse organizations of control and counter-control dipoles, which gather together in symmetry groups distributed across and reflecting the organization of the whole system. Biogenesis, the hyper-differentiation of life which occurs at evolutionary breaking points (like the Cambrian explosion,) is an example of a widespread tendency for a given style of becoming to grow hardened, able to resist transformations.

Ultimately this ability rests on the isomorphic circular orbits of the all various dimensions of life; the problem of resisting difference is precisely about differential speeds. Just the right degree of firmness or porosity: too much or too little and the membrane protecting you will be completely destroyed. Resisting difference is about strategically engaging and breaking symmetries in order to form counter-positions, evolving organizations.

Information is encoded by redundancy and frequency; it is an ordering word, a virtual or artificial precept which replaces and reorganizes a natural or organic one. As our new paradigm for images, movement and otherwise, the overflux of informatics presents the difficult challenge of integration, the real problem of transforming information into useful knowledge.

Hence the concept of *interfaces* allows us to offer a recursive definition of science, as an interface which can create new interfaces (from the (decon-)structure of previous interfaces.)

In this sense, updating interfaces applies isomorphically to the creative transformation of social and political space as much as to the spatial organization of academic and scientific discourses.

In response to this challenge of ‘updating’ our cultural interface, there arises the possibility of a general critique of the organization of power. Advocates of such a pragmatics of becoming or

aesthetics of ‘force’ (molecular transformation,) energetically engage in deterritorializing discourses of ‘knowledge’/power. The logic behind the disruption is the principle that a narrative is composed, even traversed and permeated, by (virtual) multiplicities, by pure flows and alien singularities. All this is immanent, images no longer have an outside.

Thus the ‘crisis’ of science is that the structure of scientific thought is not autonomous. Sciences’ image of its own thought has been given to it by other discourses, by other kinds of organizations. The ‘common sphere’ is in deep trouble because we are so splintered, so segregated in modern society (we tend to unconsciously surround ourselves by a delusional spectacle that constantly reinforces how right we are.) And like any dialogue, the scientific discourse can be abused, taken uncritically and for granted. Science is a tool, the materialist-pragmatists say, we need it only so far as it is useful. Managers of education and research apply what Lyotard criticises the ‘performativity’ criterion: funding those research projects which are going to generate profit, are directly useful to those with money.

Information is political before it is scientific, it is born from the self-organizing interactions of clusters of human beings. Science is structured by the shape of these fractal clusters, by their power for storing and processing large amounts of information. (What can be shared for free? Information, it’s as free and open as air. The world freely expresses abundant information; reality comes pre-thematized. Information is free; that is, as long as the channel is open, as long as both stations are ready. Politics is the opening of this smooth discursive space, the actualization of virtual multiplicity, towards a just and collectively-organized inter-social space.

Organization and Knowledge

A linear increase in energy can produce a nonlinear change in the system that conducts that energy, a change that would be difficult to predict in advance...

(Steven Johnson, *Emergence*)

So it would seem that where information exists, it can only occur as a process of documenting a process. It is a second one-way signal intervening in a one-way transformation (all single-variable measurements have this parasitic structure.) For without an activity of communication, what would information be? Information is a blank image, a token of exchange, a null place for storage and organization of data. It is structure without form, a real process expressed as a pure act of emptiness and receptivity to qualitative change, of con-forming to other processes. But is knowledge then wider than information, ontologically “broader”? Is information really as narrow as we tend to consign it? Information is a relationship between relations; this structure exhibits a fractal symmetry which underlies scientific thought no less than creativity.

After all, human beings appear to possess a great deal of non-verbal knowledge, such as the knowledge acquired through a creative relationship to the world — as evidenced, for example, in the technical creativity of a musician or sculptor — that have no explicit linguistic content. The content of a craftsman’s skill is non-informational, not part of a narrative, not intrinsically given to symbolic expression. Formal, perhaps, but we might better say it is information embodied, that such knowledge is substantial, because acquired by an observer through a transformative

relationship. Learning seems to immerse thought within the quality of the relationship, up to a real psychobiological transformation.

However, described this way, the very existence of such actual knowledge could seem somewhat controversial. To this end let us instead consider the alternate possibility that the ontological division is here only linguistic, and that there are in fact real vectors of translation between the two modalities of observation. “Information” and “knowledge” are then just products of observation procedures; what we would really want to know is how observation works, how it arises in the first place. Instead of asking: how do we reconcile agency and structure (which is ultimately a performative kind of question, begging for analogical solutions) we ask about the genealogy of structure. For example, what is in question in the case of the internal conflict we find in the definition of knowledge is the legitimacy of the observation procedure: is it in accordance with dominant scientific methods? In analyzing agency we enter into a recurring problem of narration, the endless reconversion of knowledge into information, the ontological constricture of scientific knowledge which has been characterized as a crisis of modern science. The crisis is internal to science, it deals with science’s refusal of transcendence. Science requires non-science to confirm itself; it turns freely towards what is otherwise than itself — that is, chaos.

Chaos transcending order; a strange inversion, but nonetheless this decay and transformation is the ontological relation as we here understand it. Transcendence pierces ontological relations just as it does physical ones; it is more primary than ontology. Transcendence is needed in order to perform ontology, to ask the performative, ontological question of any particular aspect of being (particularly science.) Before transcendence is ontological, a question of voids, it is a metaphysical posture, a turning towards the Other, an orientation towards what is otherwise than myself.

Lyotard suggests that postmodern science be understood as the search for instabilities. Then it is a quest for noise, for boundaries of chaos, for turbulence and indeterminacy. A new paralogic for an age of incredulity. The world is constantly expressing its symmetry to us, which is to say, the world is full of self-similar noise. And it’s impossible to completely shut it out (though we can become quite good at ignoring it.) Even if we were deprived of external sound artificially, we could not escape the noises of our own bodies, of our own minds. We communicate through noise: noise is the medium through which information is transmitted. What is noise? Above all it is a heterogenous collective, a relation interrupted, the intervention of non-sense. We can already see noise implies the intervention of another (ontological) order of operations, cross-over from another system in a non-temporal cycle. Noise breaks (through), it is entropy, the de-formation of a relation: the transformation from operation into non-operation. Noise subtracts information from a channel; but the channel itself is noise.

Information may be mediated by noise, but intuitively information seems to come in two ontologically distinct but symmetrical ways: doing and seeing, thinking and feeling, touching and immersion, learning and teaching, ‘content’ and ‘expression.’ Yet, even intuitively, a strict dualism here is untenable. Isn’t it but a moment before some vector of passage between the formal spaces is exposed, an entire inter-space of spaces? Folded within forms, constituting them, are swarming families of anti-forms, vectors of symmetry-breaking, sub-altern modalities

of distinction. Indeed, these non-formal substances construct the axiom of epistemological individuation as an independent process prior to and necessary for the separation of distinct fields (information and knowledge.)

Science depends upon the discourse of history, but tends to take it for granted. The way to demonstrate this would be to produce a clarified history of discourse. The point would be to show that already archaeology (and ontology) take us back to genealogy, that is: to the discursive genesis, towards a historical method of transduction. Critical posture: the observer ungrounds his own witness. The admission we must make: we owe everything to history, indeed, the whole organization of human space, scientific or otherwise. An enormous amount of information is stored in our cultural practices alone — indeed, enough to govern the complex interactions of six billion human beings!

A human city has many purposes: a city provides shelter to citizens as well as a convenient place for traders to buy and sell goods. Steven Johnson argues that in addition to all the manifest purposes to a city, like protection and trade, cities also possess a latent, subterranean purpose: managing information. He suggests that cities be understood as information storage and retrieval devices; they are even (spatio-visual) interfaces, because they store and transmit useful new ideas to a wider population. What must happen in order for these hidden capacities to arise in the first place, and then finally to surface? After all, cities are not explicitly planned in order to be able to do this. The inter-facial capacity arises as a macro-effect not predictable from the individual behavior of any of the micro-elements!

When our cultural practices, our unconscious self-organization betrays itself — when the integrity of our social space collapses. In a moment, a hardened culture can grow out of touch with fluid realities (conversely, fluid cultures can fail to respond forcefully enough to danger.) The point is that innovation is our historical birthright no less than tradition. There is no hope in collective movements without a corresponding transformation of unhealthy and parasitic relations. In terms of ideology, we have a paradox of communication. There must be a clear channel to communicate information. But the sender and receiver, they too are “channels” exchanging information. So where does the repair begin: with the relation, or with the relation between relations?

The escape from this paradox is an exception, a code, a difference repeated, modulated, articulated twice. Culture is this secret production of metalepsis, the integration of another ontological order into an actual series. Science deals with strategems, plans of attack — moves in a game, but also solutions to a problem, a solution that changes the nature of the game. Postmodern science searches for these moments of instability, boundary conditions, where a linear change in energy produces a nonlinear change in the system’s behavior: sender becomes receiver, “down” becomes “through”, and so forth (an ontological differend, a non-linear shift in the dimensional structure of the system.) Incompatibility is the cause of the arising in the world of individuation.

Individuation repairs an incompatibility, or rather it incessantly resumes repair of a primordial break. Thus an identity is transgenerationally maintained despite the constant breaks and resumptions of the immanent process of diagnosis restoration. Information is passed down

through generations as well as horizontally across generations; thanks to historical critique, we can read the transversal lessons of history, by burrowing underneath biography we discover the curious science of genealogy, or the real history of becoming.