2. It seems to me that so far as contemporary social theory is allied to philosophy, especially post-Kantian phenomenology, it is burdened by a paradigm with the following characteristics. They are derived from my reading of Heidegger (1973).

1. As a former but deteriorated onto-theology it has lost grounds for order or the source of emergence.
2. That origin has been replaced by a finite, formal subject which is fundamentally arbitrary in its position and as such 'constitutes' its world.
3. It has become epistemology* (Heidegger 1973) but in a very precise and limited sense determined by that arbitrary 'condition' of the subject.
4. The possibility of any critical enterprise is in turn guaranteed but limited by the 'being-arbitrary' of any substantive construction.
5. That in turn has allowed a misplaced formalism in that any construction / emergence / reasoning has qualitatively equally arbitrary status.

The rigidity of the output allowed by such rules is too limited to really be called a paradigm. The term 'idiom' is more appropriate and the characteristic of that idiom is deconstruction. This is not new, though it has taken a marginally renewed form in post-structuralism(s). It resembles closely what Kierkegaard very precisely attributes to Socrates: the standpoint of irony (ref)

It could be argued that Foucault attempts to put more substantive flesh on these formal bones through the notions of epistemes and archeology. However, for me that remains fatally limited by the insistence that objects (of knowledge) emerge or are constituted in discourse. This glottocentric orientation is also apparent in, say,

Derrida, or ANT. The metaphors remain Cartesian, in the skull, in the word. The insufficiency of this idiom has been clearly argued in Dennett, (2003) Damasio (1995) etc…..

3. I propose that a much more satisfactory ontological schema is given by Morin (2002) & cited extensively in our Qualitative Complexity:

that any and all emergence should be understood as auto-eco-organisation.

and

that any and all 'information' should be understood as auto-exo-reference.

4.We now want to go beyond Morin and our own understanding in Qual Com in not confining this to organisms' auto-eco-poiesis. For example, water is 'informed' both by its own composition and by the variety of landscapes, containers, attractors that also shape it. In both the living and the non-living 'information' about the environment is processed by the in-formed structure of the specific system. This is also true of social organisation, human or not, including insect colonies, cultures, markets. In formation is this sense is understood both as information about externalities and that which gives 'internal' form. Shannon's sense of information is confined to the former. Our sense of 'information' is qualitative, constructivist and only answers to the need of ecological sufficiency.

The upshot for our immediate purposes is manifold: the apparent boundary between form and information becomes to use Dennett's term 'smeared'. And that both are inevitably qualitative outcomes of real interactions. It follows that any 'degree of freedom' in this relationship is an instance of *determinate* chaos. It is important to

understand the converse. If form – information are formal-arbitrary, or *formless* then *real* interactions are impossible and untheorisable. Similarly indeterminate chaos – the really arbitrary cannot exist except as a negative proposition. This sets the idiomatic limits for what routinely passes for 'philosophy', critical theory, deconstruction. This is the concept of irony in discursive practice. Far from the idea that objects emerge in discourse, in this scenario *nothing* can emerge or be described. This is why Foucault and Derrida end in images of abyss or ruin. Of course, critical theory constantly flirts with specifics and qualities – Foucault's epistemes are a prime example – but they remain tacit, possibly assertive, unsupportable. Hence Foucault's and postmodernism's claim to be not-theories. They are correct in this.

5.If a formal ontology cannot ground or describe emergence, we must go elsewhere. Differently put, our sense of theorising at a high level of abstraction – which remains both possible and necessary – must operate with a wholly different understanding of formality, abstraction, or *modelling*. I do not say that an ontology is impossible. I think an ontology is necessary but that the philosophic approach not only has not, but cannot, provide this. For the sake of brevity, I shall call this *critical formalism.* Complexity theory, I suggest has provided the foundation for not so much an answer but as a potential way forward. We need to link Morin's twin but static axioms; in shorthand: the auto-eco relationship, with the familiar dynamic concept of path dependency.

6.Here we can usefully recall Morin's distinction between restricted and general complexity and Kauffmann's (2008) suggestion that auto-catalytic processes are able to explore the 'next adjacent possible' . In restricted complexity, a moderately open system 'explores' its boundaries by means of environmental-energetic

prompting. The emphasis, however, is on inherent properties within the system. This is analogous to Prigogine's notion of a system not at, but not far-from-equilibrium. A redefinition, I suggest, is necessary here. We are not simply speaking of thermal (dis)equilibrium but following the remarks above, *informational* (dis)equilibrium which includes the former as a specific case. Note that this is both a formal and a complex description.

It should be clear, then, that informational disequilibrium does not imply any kind of neutral 'data' – any more than thermal energy is neutral – but rather as auto-eco-organisational and auto-exo-referential processes that imply possibilities and impossibilities , dynamic and settled 'states'. This is an essentially qualitative space. Despite the description 'qualitative' here, characterisations are intensely varied but not arbitrary. I give two current examples of such processes at work in specific but fluid locations: the Ebola outbreak; the ideologically driven actions of ISIS. And in case you sense a pattern here – Crossrail is a contradicting third. All that is required or presupposed is informational robustness: that the dynamic is sufficient to persist long enough to have effect.

General complexity, on the other hand emphasises not a properties-driven causality exploring limited boundaries but a mutually reciprocal part-whole causality. Much more akin to a system far-from equilibrium, in Prigogine's sense, the exploration of possible states is far more dynamic, evolving, able to drive the existing path or position into new dimensions. The possible attractors, so to speak, are *re-informed*. It is crucial that we do *not* allow the idioms of critical formalism to reassert themselves here. The possibilities of emergence, evolution, innovation are not *open*; they are *informed.* That is what Kauffmann's 'next adjacent possible' implies. It implies an almost 'creative' exploration in his case at the level of protein

synthesis; in our case at the more general levels of synthesis, not only of materials but characteristically of human social construction.

This is an inherently qualitative approach to complex emergence. Hence 'my' sense of the exemplary social construct is not modelled after the arbitrariness of the signifier, nor the ostensible conventionality of objects or customs born of 'understandings', but of ecologically and qualitatively complex and multi-dimensional systems. My exemplar of social construction, then, is London. This 'object' is certainly born of understandings, but also of material constructions, economic relations, human needs, the influence of disease, waste management and so forth. All of these *may* be thought of as 'agents' – or in the terminology of ANT, *actants.* I prefer to think in terms of information in the dual sense of as auto-eco-organisational (structure) and auto-exo-referential Informational) processes. Both are inherently qualitative, both imply the kind of landscape in which mutual influence is *possible.* In each and every case a *degree* of influence and a degree of freedom is presupposed. This too should be understood multi-dimensionally. Freedom is not simply expressed by relatively open innovative exploration. Freedom is also related to features of stability, insulation, resistance to change, or: in the refusal for the informed to process new, information. We are, then, speaking of a qualitatively complex, informed (in both senses) ecology. Here path-dependency is central; there is, so to speak, an identity of history and ontology not unlike the now-neglected historical materialism of Marx (and Hegel's historicism?) But there is a renewed emphasis on a complex dialectic of existing components and new syntheses. Part-whole causal mutuality certainly, but with boundaries sometimes smeared, sometimes open, sometimes rigidly closed.

7.I want to argue that an unavoidable qualitative component of any social theory is human nature. This is a startling point in an era dominated by the idioms of critical formality. For the latter the human is a somewhat Lockean blank slate capable of absorbing any new essay (as a matter of convention of course). That is to say, humanity is constituted in discourse, sometimes with the meaningless concession: discursive *practice.* Notice how in this model information flows one way: into the empty space; but on the other hand it has no authoritative claim: it 'could have been otherwise'. The suggestion that human nature is crucial is not, and cannot be, a return to ontotheologic fixity. It is rather to say that human nature is informed by our evolved species being but that our evolution also presupposes quite radical 'post natal plasticity' (Toobey & Cosmides 1992). In other words, we are informed, but we are also capable of processing or *creating* information. Stating the contrary, if we were not informed, we could not process or create information either. Nature then is NOT the opposition but the condition, root and foundation of plasticity, innovation, adaptability; in short, any and every form of constructivism. The best example is language. The variety of language is consequent upon a universal grammar and it would be ridiculous to suggest that language would be somehow free-er without it. Moreover, it is path-dependent on the evolution of biosemiotic capabilities that underscore is ecological origin. Language is not, then, primarily conventional, nor is its essence the arbitrariness the arbitrary status if the signifier, but rather the ecological relationships between the biosphere and the environment. This again is 'smeared': both inside and out. The question of plasticity thus turns on ecological relatedness and is always a question of degree.

8.Further: The basic assumption of ecological perspectives is that the dynamics of emergent phenomena are interlinked, networked, co-dependent. From this standpoint, there is no such thing as *sui generic* social phenomena, [in Durkheim's sense] any more than they 'independent' rabbits, foxes or ants. Put differently, ecological networks imply that *qualitatively different phenomena causally influence each other*. This clearly questions the viability of sociology as a distinct discipline

In this sense, reductionism – or 'compression' – can be seen to operate both ways. It is equally limiting to isolate *social* phenomena, outcomes, the 'contemporary collective' as it is to reduce those to the evolutionary individual. Or, put differently, it is equally limiting to isolate *or even define* 'social' phenomena as distinct from the material or biological environment. Each of these reductions, abstractions, compressions models *propose* that to ignore inter-relation is theoretically viable or reasonable. That cannot be sustained.

9.There is however, a more insidious, less visible temptation to compress at work. It is almost unavoidable, but not quite. Critical formalism in this analysis is a danger, something to be avoided. But it is anything but a simple mistake. Indeed it is rooted in our very language and as such is always an open possibility. I suggested at the outset that this is rooted in the decay of ontotheology and its replacement with humanism. As Nietzsche cryptically once said perhaps god is not dead so long as we believe in grammar. What I intend here is a far-reaching and necessary reform of ordinary usage. I have repeatedly used the expression 'to a degree' which is central to fuzzy logic. An item belongs to a fuzzy set 'to some extent'

– which, in principle, can be described. This is not easy but is at least a pragmatic possibility in (say) electrical engineering. In short, it has applications. The issue for social theory is, I suggest, the problem of the *degree* to which the *qualitatively* specific belongs to the grammatical *category.* For example, to what degree does the category 'working class' or 'male' or 'old'- or anything – describe its assumed members? The central danger here is that the informational qualitative distinctness of the specific (say, an orange) is compressed, reduced, made nonsensical by the category 'fruit'. The wording here indicated that this is my take on the non-compressibility of the genuinely complex. The methodological problem may thus be stated as the presumptions and outcomes of grammatical compression of the uncompressible. That is itself the mundane ground of the radical idioms of critical formalism. How may this be avoided?

9.I will begin with probably the least controversial proposition: Embrace the implications of fuzzy logic. The central proposition indicated above is that an item may be a member of a set to a certain degree. Electrical applications (so far as I understand them) want to quantify this to optimise performance. From my/our point of view there are further salient considerations. First, to assign to sets is a decisively human characteristic. It may be that other species 'set'. But we do it first in distinctively human ways and secondly in habitual, idiomatic or disciplined manners. The reflexive demand on both the light and the shadows such practices may cast is enormous. In any case, this is *habitual* not *reasoned* compression.

Second, I suggest, is the implication that assertions and descriptions may be true also *to a degree.* This may seem a fairly ordinary point, especially for applied science. 'Our' *philosophic* involvement with it is rather more loaded: to the point that the descriptive and the critical

forms of sociology have become estranged from each other. The current greater authority of critical formalism – critical theory – rests on the idea that truth *to a degree* is unacceptable. It is rarely conceded that this implies: silence is better. Silence aka deconstruction. But silence invites terrible voices. *So we have to risk description*. In my view the literature is scant and in urgent need of development. Otherwise a crass politics does and will substitute.

The upshot is: Sociology is possible (only) as a a fuzzy discipline.

The next point is more controversial. The assertion that social phenomena are *sui generic* - and Durkheim specifically distinguishes them from psychological or biological phenomena -' they arise in different milieu' – has licenced and promoted ignorance, indeed hostility between sociology and psychology, especially evolutionary psychology. We are, from this perspective, not so much social animals – a concept that might preserve ecological relation – as social constructions. This has typically been presented as politically progressive. Well, social construction is as much at home on the right as the left. Hitler was a social constructionist. It is also worth noting what is lost by radical constructionism: any sense of embodiment, any interest in the emotions, any conception of need or binding ethics. This is Descartes reinvented: the human in the skull. But a nostalgia remains: Why, for example would misogyny, class or even mass murder actually matter except on the basis of human nature and values, however residual. Critical formalism and its foundation 'constructivism' is powerless to address this. So we have to risk description *of an informed ethics*. This cannot be essayed without a concept of humanity. There is a powerful body of *ethological* and *psychological* work available and is in need of acknowledgement. Without it we remain ignorant in the most banal sense: exactly the blank slate!

Finally, there are material conditions. They range from energy and water resources, from waste management to healthcare, form global warming to agriculture, from technology to information management. How can these real and salient aspects of human society be regarded as somehow second order?

References / notes

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