



# Individuation, relationality, affect: rethinking the human in relation to the living

Couze Venn<sup>1</sup>

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## Abstract

This article searches for a way of theorizing the interconnectedness of processes of individuation, relationality and affect, with the aim of clearing the ground for an approach that establishes the basis of this interconnectedness by to mechanisms common to all living things. It establishes a number of shifts that enable us to think the categories and concepts like the individual, the subject, the group, the threshold, relationality, co-implication and so on according to a fundamental decentering, finally breaking with both subject-centredness and its privilege of the individual as model or starting point; the same epistemological shift implies the rejection of the anthropocentric divide between humans and animals, while avoiding species of sociobiologism, pre-formationism, geneticism and other monocausal paradigms. What the new problematic of life enjoins us to rethink are the standpoint of singularity rather than that of the individual, coupled to the standpoint of relationality as a principle enabling us to think the self–other, human–animal, nature–culture and human–world in terms of compossibility and complex becoming. This view about the co-constitution of all life has major implications regarding responsibility for the other and responsibility for the world, grounded in the standpoint of the temporality and historicity of being as existential condition circumscribing the relation to the other. This shift at the level of ontology is explored via an engagement with the work of Simondon and his conceptual apparatus, particularly ideas of psychic and collective individuation, the pre- and transindividual and the associated milieu; this perspective is re-articulated by way of the work of Merleau-Ponty, Haraway’s notion of ‘companion species’, Ettinger’s concept of the ‘I–other plurality’ and cognate concepts that point to a new terrain for theorizing affect.

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Couze Venn—Deceased.

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✉ Couze Venn

<sup>1</sup> London, UK



We have all watched in fascination the amazing swirl of a flock of starlings in the evening sky, or followed the movement of seagulls as they swoop together in a large bunch on a freshly ploughed field. Photographic and video technologies today take us inside this mass of seemingly chaotic, unbridled elemental passion acting in concert, so that research on this kind of behaviour, related to swarming, now uncovers the existence of patterns and purpose in the behaviour. This prompts us to see describable reason in this ‘madness’, challenging our ignorance or prejudices about the animal world. Equally, explanations in terms of imitation, instinct, contagion<sup>1</sup> or genetic programming begin to appear as rough-and-ready approximations in search of more adequate models, in particular models that would not only allow us to better understand the mechanisms at work, but also show the proximity of all living beings at this level of processes that involve non-conscious, visceral, proprioceptive and affective processes connecting bodies (see the important innovative work of Massumi 2002a).

The arresting question about this kind of swarming is: how do they do it? And immediately we are led to think of the possibility of a collective intelligence or mind animating the action; indeed, it seems to be a case of a collective body and a collective intelligence acting in unison as in a dance, such that we can imagine the body thinking and the mind feeling (on the idea of ‘thinking feeling’ see Massumi 2002b). Yet we wonder also about the connection with the kind of mass human behaviour evidenced in collective patterns like social trends, or the moods that bind a group into an affective unit, or in references to the *Zeitgeist*, or even to moral panics, that is, behaviour which, in conventional discourse, appears to proceed by imitation or a contagion of sorts: is a collective mind at work there too, operating at the non-conscious level of body-to-body communion? Is this also the level at which affect operates, below the threshold of self-reflective cognition, but efficacious in terms of meaningful action and communication? So, the problem begins to move towards finding explanations for what appears to transcend cognition and calculation, behaviour that we tend to relate to mood, or the sense of ‘going with the flow’, that is, the embodied force or potential that constructs affinities and welds bodies into collective ensembles so that they operate as more-than-one entities. This suggests the existence of forms of consciousness and body-to-body interaction that cognitivist approaches to the body–mind coupling, fixated on overt and intentional behaviour, simply cannot comprehend.

Let us add another case, one which might appear far removed from the swarming of animals. In their analysis of markets, Knorr-Cetina and Bruegger (2002) describe the behaviour of financial dealers and agents in the foreign exchange market, focusing on what they call the ‘postsocial relationships’ involved in the coupling of dealers and high-tech communication mechanisms in which the screen has become

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<sup>1</sup> The concept of contagion, which currently enjoys a renewed popularity in the psychosciences, acted as a very powerful and ubiquitous metaphor in the 19th century. It was used to explain the spread of diseases, the transmission of criminality amongst members of particular pauper families or in prison and so on, as well as the dilution of racial purity and strength by ‘contagion’ from inferior races. As such it underwrote a good deal of biopolitical social policy affecting hygiene, crime, immigration and ‘pauperism’.



like a social entity, a ‘complex other’ (2002, p. 162) with which the dealers have bonded. Non-human objects, they say, ‘have an increased presence and relevance in contemporary life’ (2002, p. 162). I’m not interested in this ‘postsocial’ proposition since I think objects, as prosthetics or as extensors and ‘hypomnematas’ (Stiegler 2005), have been a central part of hominization from the beginning, that is, as both products and triggers of alloplastic evolution (see also Leroi-Gourhan 1964). The authors, it must be said, do emphasize that the screen is ‘a precondition for a relational regime’ (Knorr-Cetina and Bruegger 2002, p. 164), a feature they explore in a post-Freudian psychoanalytic language. More relevant for the questions about affect that I am exploring are the descriptions they give of the dealer–technology complex and the accounts which dealers themselves give of their situation. They report observing currency dealers sitting at their ‘desks’, surrounded by a range of technology, including a ‘voice broker’, which is ‘an intercom system continuously shouting prices and demanding deals’ (2002, p. 165), a screen-like phone and the screens. When traders arrive, they:

...strap themselves to their seats, figuratively speaking, they bring up their screens, and from then on their eyes are glued to that screen, their visual regard captured by it even when they talk or shout to each other, their bodies and the screen world melting together in what appears to be a total immersion in the action in which they are taking part. (2002, p. 165)

When a dealer is asked what the market is to him/her, the response is:

Everything. Everything. How loudly he is screaming, how excited he gets, who’s selling, who’s buying, where, what central banks are doing, what the large funds are doing, what the press is saying, what’s happening to the CDU, what the Malaysian prime minister is saying, it’s everything—everything all the time. (2002, p. 168)

Later they report a chief option trader’s account of ‘a feeling for the market’:

You are part of the market, you notice every small shift, you notice when the market becomes insecure, you notice when it becomes nervous, you notice strong demand.... You notice also that the demand is much greater than the supply. All this [amounts to a] feeling [for the market]. When you develop this feeling, and not many people have it, the capacity to feel and sense the market, (etc.). When someone feels the market, then they can anticipate [it] and can act accordingly. When you are away from the market, and you lack this feeling [for it], then it’s incredibly difficult to find it again. (2002, p. 180)

Two things are striking in this account: first, the way bodies, objects and technics operate as a series of co-variant I–other(s) relations, forming a complex whole put in motion within the frame of specific purposive action, behaving as an integral milieu; second, we notice the fact that acting in that situation involves the conjoining of cognitive and affective sensing and thinking, the integration of feeling and calculating, such that body–mind–world meld into one organism (see also Damasio’s 2000, 2006 [1994], explorations, and the approaches developed by Clough 2007). They seem



to constitute a composite of symbolic, technical and affective associated milieus, in the Simondonian sense, as I shall explain below, or as Clough (2007, p. 2) puts it: ‘a new configuration of bodies, technology and matter instigating a shift in thought in critical theory’. Thus, we have this example of what passes for the most rational of economic activities, supported by sophisticated informational technologies and the mathematics of complexity and chaos, that in reality turns out to depend on ‘a feeling for the market’ mixed in with a whole range of in-the-moment experiences as well as cognitive calculations. What is striking, then, is the instantaneous correlation of every kind of ‘information’: facts, signals, rumours, news, mixed in with moods and emotional energies, enabling agents to participate in an activity in which all behave both as an individual and as an element of a collectivity. One begins to wonder what the differences are, at the level of mechanisms, that separate the flock of birds and the traders on the market floor.

Here is another example, relating to relational processes at a different level, yet adding to the kind of displacement that would allow new analytical configurations to become visible for rethinking the problem of affect, individuation and subjectivity. It is the Benard cell, on the face of it a case that seems unconnected to the other two in that it involves a purely physical, non-living entity. The example basically refers to the behaviour of a layer of liquid when heated between two plates in a confined space. What is observed is that a very slight change in temperature when the container is heated from below results in random movement of cells towards the top. As the temperature is very gradually increased, the convection movement of cells assumes a regular pattern. If the temperature is increased beyond a certain point, turbulent flow becomes chaotic. Basically, the behaviour of the fluid conforms to what is known as a dissipative, far-from-equilibrium system. This means that microscopic changes in initial conditions result in macroscopic effects, while microscopic random movement spontaneously becomes ordered at the macroscopic level. In other words, the system is metastable, behaving according to the stipulations of chaos theory, popularly and misleadingly known as the ‘Butterfly effect’. The Benard cell shows that even a relatively simple system can exhibit phenomena of flow, turbulence, indeterminacy, equilibria and patterns, depending on initial conditions, so that once again the idea of associated milieu—describing the case when all the elements and conditions in the situation act as a single system—comes to mind when thinking of relationality as a concept that applies to the processes involved. The fact that the individuation of single cells is correlated to ‘collective individuation’ regarding the behaviour of the population of cells of the liquid supports this approach (Simondon 2005a, see below). Of course, the analogy with the previous two cases must recognize the limitations due to the essential distinction between living and non-living systems.<sup>2</sup>

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<sup>2</sup> A rough distinction would include the following differences: living beings require an input of energy—usually in the form of ‘food’ or sunlight—in order to maintain their state of vital organization; living beings tend towards increasing entropy, or minimizing potential or order, in other words they die at some point; living beings reproduce themselves, usually by sharing genetic information (usually through sex or pollination) thus requiring minimally another being. Humans, of course, know in advance that they must die, with ontological, ethical and psychical implications; the matter of death does not bother the stone (see also Heidegger 1995).



The point is that explanations for this range of everyday, taken-for-granted phenomena involving embodiment, the brain–body–world coupling and the individual–group relation of compossibility could cross disciplinary boundaries as well as the anthropocentric divide between the human and the animal and the ‘humanist’ ontology separating being and technics—or subject and object—and tell us something profound about what lies below the skin or the surface of living beings. These shifts would allow us to think the categories and concepts like the individual, the subject, the group, the threshold, relationality, co-implication and so on in a new way.

Or rather, we are led to this line of thought if we do not find the appeal to linear causal explanations like instinct, genes, adaptation and so on sufficient as an explanation, though they clearly have a part to play. In particular, appeal to instinct to explain behaviour or conduct tells us nothing, merely re-labelling our ignorance with comforting terms like natural disposition, supposedly grounded in genetic programming to be unravelled one day. Objections to this tautology are countered by the fantasy of a ‘Genome 2’ project that would deliver the monological gene–behaviour correspondences that the Genome project has failed to supply. The dominance of the field by the model of the individual gene as determining behaviour, as in Dawkins’ ‘selfish gene’ and ‘extended phenotype’ theses, and other geneticisms, is now being replaced by the view that it is the network of genes that determines what happens, and what is done with the instructions coded in DNAs/RNAs (Holmes 2009, p. 38). For instance, evidence of lateral gene transfers (LGT), as in antibiotic resistance or transgenerational epigenetic effects in plants, undermines the assumptions in Dawkins’ metaphors (Elsdon-Baker 2009, p. 24). Geneticism, when coupled with the privilege of the individual—as in ego-centred or subject-centred conceptual frameworks—on the one hand neatly reinforces the dismissive attitude to animals that anthropocentrism has conditioned us to take for granted, while, on the other hand, it reduces all differences to biological determination or destiny, typically in sociobiology which universalizes this paradigm.

However, the phenomena we are considering are too complex for reductive models; besides, since the activity of swarming, or hunting in large flocks, or mass migration as in birds and certain other species, such as wildebeest and other animals in the Okavango delta, happens at such speed, with such great numbers and in such a non-conscious way, that we are pushed to think outside the peri meter of cognition as understood in psychological—and cybernetic—discourse, at least if we discard the appeal to some simple model of instinctual behaviour.

Similarly, regarding human conduct, the speed and unexpectedness with which moods can change, say from bear to bull market, or from a ‘jovial’ to an ‘ugly’ crowd, or attitudes shift, say, from tolerating strangers to their criminalization, suggests the existence of processes that involve forms of knowing and sensing that we have yet to properly fathom. So, if not cognition as we know it, nor a matter of instinct and genes, can we try to imagine other ways in which communication takes place, in addition to or coupled to conscious calculations, that involves body-to-body co-enactment and mechanisms outside of consciousness—or rather relating to paraconscious or else an autozoetic consciousness (relating to the retrieval of episodic memory)—mechanisms we neglect because they are



invisible or remain below the threshold of the kind of knowing we are familiar with or pay attention to? And, the more challenging question: what if these are mechanisms that humans share with other species? Would our better understanding of such common mechanisms not teach us a great deal about ourselves, and open the problematic of affect, cognition, embodiment to more generalized theories about the relation of the living to the world of other creatures and bodies, both living and non-living? Such questions have now become central in the ongoing problematization of anthropocentric ontology, as in Derrida (2008), Agamben (2004), Haraway (2008), Cavell et al. (2008), Simondon (2004) and others.

The problem is not so much that we may be closer to animals than we like to think, but that animals may be closer to us than our privilege of the human dictates. Indeed, there is a gathering mass of evidence to support the view that some animals show abilities like advance planning (Geddes 2009), self-recognition, invention and use of tools, empathy and care (elephants, say), once thought to be exclusive to humans. For instance, one aspect which is problematized by the case of swarming or flocking is that of our understanding of the boundaries separating one individual from another, or distinguishing a specific individual from the group. The group or collective acts as one in such activity, so that differences are, or appear to be, dissolved in the dance of the many. Yet, if we were to release an individual bred in isolation from the flock or group and their normal habitat, would it know what to do, by imitation perhaps, or a re-awakening of dormant capabilities, or simply be at a loss, and fall out of the group, uncomprehending, at least temporarily—as experience with the young of animals bred in captivity seems to suggest? That is, is there a degree of prior learning taking place here, a kind of apprenticeship that belonging and acting with others inculcates, again in a mostly non-reflective, direct—if not necessarily not non-conscious—way? Yet how does this happen? Clearly there is communication taking place, but outside the register of language as we know it, yet not outside the register of signifying systems, using sight, sound, smell, gestures, movement, posture, that is, conscious as well as non-conscious ways of speaking and doing with one's whole body, ways in which a body keeps itself together by virtue of keeping in touch with other bodies and with a world. This activity of communication happens in a 'field of emergence' which is not 'pre-social' but 'open-endedly social', yet 'in a manner "prior to" the separating out of individuals and the identifiable groupings that they end up boxing themselves into', as Massumi (2002a, p. 9) has put it. And it is not just a matter of imitation, for one must know who or what to imitate, even if one presupposes that individual members of a group imitate successful individuals (as Tarde 1999 [1893], would have it), whether instinctively or not. Success, in this kind of narrative, begs its own questions, namely, about how an individual knows in advance which kinds of successful behaviour are to be prized, which rewards to seek, and more complex approaches to 'imitation' as in mimesis. Tarde gets round this by positing that all individuals—or monads in his vocabulary—naturally seek to maximize their possession and power (Tarde 1999 [1893], 85ff.; e.g. 'Possession is yet the universal fact' or 'Since to be is to have, it follows that every thing is greedy' (1999 [1893], pp. 89, 95), an explanation that no doubt delights liberal capitalists and Hobbesians everywhere.



Fortunately, there are alternative accounts which are more productive from the point of view of their contribution to opening up the possibility of thinking the human and other living creatures within the same frame, at least as far as these kinds of individual-to-collective, body-to-body forms of communication, co-action and co-constitution are concerned. All these alternatives recognize relationality to be a primary state of being alive: ‘Being is relation’, says Simondon (2005a, pp. 62, 63), to emphasize the primacy of reciprocity and co-production characterizing the process whereby an individual emerges as ‘theatre and agent of a relation ... as activity of the relation, and not a term of the relation’ (2005a, p. 29). It is clear that this problematic of individuation, for which the individual entity is neither the starting point nor an absolute—as in the Cartesian cogito or the Leibnizian monad—but an entity whose existence needs to be accounted for by reference to processes whereby it is enacted in co-action with others (Varela et al. 1993), also shows it to be an open terrain, where only the relation itself, and a force or energy imbricated in the relational, that one could understand as affect, appears as common ground for theory.

## Hypothetical Beginnings

We could begin by considering one such departure, which at first appears to have a grip on the phenomenon of collective intelligence and mass coordinated action; it is the approach advanced in Gibson’s (1977, 1979) ‘ecological psychology’, which claims that the environment implies the organism and vice versa, that is, there exists a ‘living thing–environment reciprocity’ such that each acts directly on the other outside of conscious knowing or calculation. In Gibson’s anticognitivist ‘ecological psychology’, the perceptual field is thought of as a field of mutually affecting actants. The approach emphasizes action directly triggered by a spectrum of data existing as invariances in the topology of the ambient milieu. For Gibson, the organism’s perception of itself and the environment is a product of a direct pick-up of these invariants in the optic array; this activity establishes the spatial and temporal patterns by which that organism visualizes its place in the environment and is able to act accordingly. The claim here is that there exist non-conscious responses to invariant features in the organism–milieu dynamics, a claim captured in his notion of affordances, that is, objective ‘action possibilities’ latent in the environment–organism complex. Thus, for a monkey, trees have ecological features existing independently of the organism that make them climbable. While he regarded this perception of affordances to be unmediated by memory or psychological processes, and thus independent of individual (re)cognition of the ‘action possibilities’, others have developed the idea of affordances to take account of experience, so that flexibility in response becomes possible (see Varela et al. 1993, pp. 200–203). In the example of swarming, or of financial market behaviour noted above, one could argue that, in the former case, individual starlings behave in the way they do because of these ‘action possibilities’ inherent in the milieu, if we consider the latter to include the spatial and physical environment as well as other starlings and living creatures, the whole acting as one co-articulated system. There would be a kind of attunement linking environment and organism, arising perhaps from a basic symbiotic relation



always already at work in the ontogenesis of the individual. One could imagine that an affective economy is equally at work, yet it is not clear how affect operates in this model, whether it is necessary at all, except to account for the acting in concert, functioning at the level of the proprioceptive. But what exactly is it—beyond this attunement itself, and this immersion in a milieu? There is also no clear place for the part individual differences might play or for creative, that is, untypical and non-habitual, responses to change.

In the case of financial markets, ‘action possibilities’ are built into the technical and symbolic associated milieu, yet depend equally on experience and an apprenticeship whereby agents become attuned to these possibilities, while previous action constantly alters possible responses, in part through feedback loops in the system, in part through agents’ affective investments in that environment. So here individual differences have consequences, for example, in generating new responses, showing up the limitations of the notion of affordance.

Individual differences matter also in the case of humans because of a sense of self or singularity, pointing to the importance of the psychic dimension of being from the point of view of the individual person. So boundaries, coherence, ontological security, psychical well-being and its opposite, namely psychic disturbance and dissolution, appear here as matters that cannot be reduced to epiphenomena. For human society, the whole questions of ethics find its anchorage in such questions too. So, if the psychic dimension is a central component, is a concept like the skin-ego (*moi-peau*) the answer, as Anzieu (1989) would have it? That is to say, the idea of a boundary or envelope, and of containment whereby the physical limits of individual beings, marked by skin, coincides or is doubled with a psychic container, both protecting the individual as well as acting as threshold for the inside/outside, psychic/social and me/you dynamics. This coincidence of skin and individuation is not as arbitrary as it might appear, for all living things, from plankton to plants to mammals, as individual instances of a species, are marked by actual physical containers, so that one might be tempted to regard this fact to be a necessary condition. Yet one should note that skin is in fact one of the most complex of organs, directly affecting the functioning of the rest of the body by regulating autopoiesis in the organism and by acting as a kind of transducer between ‘inside’ and ‘outside’, thus doubling as the mechanism which modulates the co-poietic or symbiotic relation of the body to its ‘environment’. So skin is, in a sense, simultaneously part of the individual organism and part of the ‘environment’; this approach lends itself to thinking the group or collective in terms of nested loops that complexify the idea of containment.

Psychoanalytic theory and therapeutic practice have long recognized the importance that boundaries, limits, surfaces and thresholds have for the well-being of the individual, serving the function of both communicating and with holding with regard to others and to the environment. Anzieu (1990) extends the notion of envelope to the group, as group imaginary (*imaginaire groupal*), though this is developed from the point of view of psychoanalytic clinical practice, for instance, by reference to dream, phantasm, resistance, that is, the affective economy as understood within the psychoanalytic problematic of the unconscious (see Green 1999 [1973]). The extension to groups would require a theorization of the mechanisms that relay or link the psychic level of affect to the symbolic domain of their articulation, as





in narratives of self, and the technical or environmental domain of objects and machines that become incorporated and marked as signifiers of self and the relation to the other (see Walkerdine 2010).

The importance of the relation to others or the group is emphasized also in Daniel Stern, who places the relation at the centre of the individual–milieu coupling, proposing the idea of ‘vitality affect’, that is, dynamic, kinetic qualities of feeling attached to ‘vital processes of life’, experienced and expressed in living things in non-conscious corporeal communication, and that constitute a primary layer of affective economy: ‘Like dance for the adult, the social world experienced by the infant is primarily one of vitality affects before it is a world of formal facts’ (Stern 1985, p. 57). This notion is thought in terms of affective attunement, or a feeling-with, which is proposed as crucial for development. Stern distinguishes such affects from ‘Darwinian categorical affects of anger, joy, sadness, and so on’ (1985, p. 55); vitality affects thus take place within a relational milieu. There are problems in his approach, however, from the point of view of a more radical decentring of the subject, away from varieties of ego-psychology, given that Stern privileges an entity he calls the ‘core self’ in his approach: ‘the infant’s first order of business, in creating an interpersonal world, is to form the sense of a core self and core others.... First comes the formation of self and other, and only then is the sense of merger-like experiences possible’ (1985, p. 70). This is a weak sense of the relational, for the relation, for Stern comes after individuation rather than being constitutive and immanent, that is, in process.

My point, then, is that although skin, envelope and, for humans, skin-ego, i.e. some sense of organized containment and of threshold, point to some elements of the mechanisms and some of the kinds of phenomena we need to examine, both Gibson and Anzieu propose models that assume pre-given realities, at least at some point in the process, either as out there in the ‘environment’ (Gibson) or in here at the level of ‘primary process’ (Anzieu). The problem is that the sense of the relation between the individual and the group or collectivity at work in the accounts of Gibson and Anzieu—or Stern—is not that of relationality in the strong sense of allagmatic relation as developed by Simondon, to which I will return shortly, for the latter proposes the relational as a co-constituting coupling in the course of which the beings in relation are enacted. Individual beings, as ‘singularities’ or individuals, appear at the end of the process and not at the beginning, and remain provisional.

Two examples from Simondon will point to this stronger sense of relationality. One concerns the idea of field as the milieu enabling individual beings to come into a relation that constitutes them as entities with specific properties or characteristics. Simondon asks us to consider the case of the magnetic field constituted when we place three magnets at three corners in a room or space; if we then bring into this field a non-magnetic piece of iron (one that has been previously heated to above the Curie point), it immediately becomes magnetized, and consequently, as a fourth magnet, immediately alters the structure of the magnetic field, acting ‘as if it were itself a magnet creating that field: such is the reciprocity between the function of the totality and the function of the element inside the field’ (Simondon 2005a, p. 538). One could argue that every individuation follows this pattern, that is, that it involves this coming of an individual into an



already constituted field that alters both itself and the other active elements in the field; this is one sense of the allagmatic relation: as active, constitutive becoming through relating. (This form of reciprocal constitutive interaction was later put to work by psychologists such as Kurt Lewin in theories of gestalt, a key theme debated at the Macy Conferences.)

The second example refers to the activity of making a clay brick; it adds another dimension, namely, that of the processual, that is, the active dynamics whereby matter take a particular form, as a particular object, through the technical actualization of a potentiality. Simondon analyses the process of making the brick using clay, a mould and the operation of packing the clay into the mould; his point is that not only is it the case that all three heterogenous components need to converge into a common operation for the brick to take form, but ‘one must construct a specifically defined mould, prepared in a particular way, with a specific type of matter’ (2005a, p. 40). There is a process of becoming in which a potential in the system made up of ‘mould–hand–clay’ is actualized according to a ‘positivity’ of the taking form (*prise de forme*) in which none of the components is privileged as determining (2005a, pp. 42, 43). The technical operation also depends on learned brick-making skills, on knowledge of the right kind of clay and how it is made ready, the efficient type of mould to use, and the energy required in the form of an amount of work. It is because all of these elements are conjoined in a relation of reciprocal becoming or actualization—of the mould, the artisan and the clay—in the moment of emergence of the brick that one can speak of the system ‘mould–hand–clay’ as an associated milieu and grasp the constitutive action of the relation in it. In both cases, relationality relates to a process of becoming of the elements in relation, breaking with the idea of their pre-formation prior to the relation.

I will return to the Simondonian view of relationality and his notion of the associated milieu later, as part of the attempt to conceptualize the living on the basis of some common, mostly invisible, features operating at the level of preindividual as well as transindividual processes, generalizable across human and non-human species. There is another reason for turning to Simondon, and this is because the different theorization of affect which he elaborates, as well as the conceptual apparatus deployed, provide tools for experimenting with a theorization of the psychic-social milieu which overcomes the inadequacies of psychoanalytic theory while rethinking the role of identification, of memory, and the aesthetic in the constitution of subjects. Unfortunately, I only have space in this article to clear the ground for this wider project.

A preamble to the task of opening up this new conceptual space involves the rejection of vestiges of geneticism, behaviourism and cognitivism. For this I shall rely on Varela et al.’s (1993) work on the enactive approach to embodied cognition. This approach is grounded in the ‘mutual enfoldment view of life and world’ (1993, p. 200), a view that asserts the ‘coimplicative nature of organism and environment’ (1993, p. 200). They draw from the work of Lewontin—‘Just as there is no organism without an environment, so there is no environment without an organism’ (Lewontin 1983, cited in Varela et al. 1993, p. 198) to argue that neither organism nor environment should be conceptualized as pre-given entities that subsequently enter into relation. Instead:



...living beings and their environments stand in relation to each other through mutual specification and codetermination. Thus ...environmental regularities are not external features that have been internalized, as representationism and adaptationism both assume, [but] the result of a conjoint history, a congruence that unfolds from a long history of codetermination.... [T]he organism is both the subject and the object of evolution. (1993, pp. 198, 199)

They find support too in Oyama's (2000 [1985]) *The Ontogeny of Information*, which, among other things, rejects the 'separation of form and matter [that] underlies all the versions of the nature–nurture antithesis that have so persistently informed our philosophical and scientific approaches to the phenomena of life' (2000 [1985], p. 1). The privilege of form, today reinscribed in the guise of information, replacing 'God, a vitalistic force, or the gene as Nature's agent that is the source of the design of living things' (2000 [1985], p. 1); it prevents one from breaking the spell of the dualism of matter and form. All these metaphors for a determining agent share a "preformationist" attitude toward information, that is, the assumption is that information exists before its utilization or expression' (2000 [1985], p. 2). She proposes instead the view of an ontogeny whereby ontogenesis applies 'not only to bodies and minds, but to information, plans, and all the other cognitive-causal entities ... that supposedly regulate their development. Developmental information itself ... has a developmental history. It neither preexists its operation nor arises from random disorder' (2000 [1985], p. 3). This view, incidentally, problematizes the cybernetic model of information widely accepted across the social sciences, a critique first formulated by Bateson (1980) and MacKay (1969), and that we find in Simondon also (2005a; see additionally the arguments in Hayles, 1999). Applied to the organism–environment coupling, it means conceptualizing both as 'mutually unfolded and enfolded structures' (Varela et al. 1993, p. 199), for 'genes and gene products are environments to each other' (Oyama 1985, cited in Varela et al. 1993, p. 199).

The upshot is that ontogenesis and phylogenesis are seen to be co-related processes. It is worth noting that the emergent paradigm in the life sciences is for the integration of specialisms that had addressed questions of epigenetic development in isolation from contiguous sciences. Thus ecological developmental biology brings together the concerns of epigenesis and embryology to present an integrated approach that recognizes more clearly the mutual effects of environment and organism in terms of a plastic history of development (see Gilbert and Epel 2009). An example here is the report of findings by Anthony Auger that if a female rat is treated like a male (different licking and grooming patterns by the mother, according to sex), brain changes occur that make it look more like a male brain, specifically, resulting in a lower number of oestrogen receptors in the hypothalamus of stroked females (Powell 2009); in other words epigenetic action has ontogenetic effects. This is in line with another argument of Oyama (2000 [1985]), who supports the blurring of the distinction between inherited and acquired characteristics, suggesting that we regard evolutionary change in terms of 'functioning developmental systems: ecologically embedded genomes' (2000 [1985], p. 138). Varela et al. use this range of theories to critique Gibson's idea of affordance, for example, citing the case of the match between honey bees and flowers, given that the former are known to be trichromats sensitive to the ultraviolet end of



the spectrum, while flowers have contrasting reflectance patterns in ultraviolet light: is it a case of affordance, or a chicken-and-egg conundrum? Their answer is that ‘colors of flowers appear to have coevolved with the ultraviolet sensitive, trichromatic vision of bees’ (Varela et al. 1993, p. 201). They argue on this basis that ‘environmental regularities are not pre-given but are rather enacted or brought forth by a history of coupling’ (1993, p. 202), an argument supporting the idea of the co-determination of environment and organism.

So, if we set aside pre-formationist views and see the environment–organism complex as one of mutual constitution and processual becoming, how does one account for individuation, individual differences, as well as collective becoming or acting? How far does the metaphor of skin, or skin-ego, and autonomous individuality both help and hinder analysis? First of all, I want to argue that what the analysis so far indicates is the need for a fundamental decentring, finally breaking with both anthropocentrism and subject-centredness and its privilege of the individual as model or starting point, while avoiding any species of sociobiologism, pre-formationism, geneticism or other monocausal and monological paradigms. These paradigms are still dominant across the social sciences and much popularizing science writing—for instance, in the search for a ‘thinking conscious machine’, the android dream of science fiction, that mostly assumes the Cartesian model of mind as autonomous entity, neglecting entirely the epiphylogenetic and socio-historically embedded character of minds and what they are able to do; what is the mind without others and a symbolic universe, or without a technical world (Stiegler 2004, 2005)? What is the mind without the senses, without, in other words, an affective economy as one of its fundamental components? Indeed, the working hypothesis nowadays is that of an ‘extended mind’, embodied, embedded in a milieu, reaching out into the environment through prostheses and cognitive machines such that mind–body–world form a tangle of feedback loops (Clark 2008; Flanagan 2009). And what is the mind, or the human ‘individual’, without the consciousness of ontological suffering and loss, without an economy of desire? What the new problematic of life enjoins us to rethink is the standpoint of singularity rather than that of the individual, and of relationality as a principle enabling us to think the self–other, human–animal, nature–culture and human–world in terms of compossibility and complex becoming—with important implications regarding responsibility for the other, responsibility for the world, and a more considered view of the temporal and historical aspect of all life, lived as one of the basic conditions of human existence. It is this shift at the level of ontology that I want to explore via ideas of the pre- and transindividual, the associated milieu, and concepts like *dispositif*, and setting to work, and ‘companion species’, while the issue of singularity will take us back to reconsider matters such as skin-ego, self-integrity and ontological security, as well as what is referred to as collective intelligence or mind.

## Simondon and the process of individuation

In this analysis, I shall use mainly Simondon’s (2005a) *L’Individuation à la lumière des notions de forme et d’information*, which collects texts presented for his doctoral thesis in 1958 and that have appeared separately, namely as *L’individu et sa genèse*



*physico-biologique* (first published by PUF in 1964), *L'Individuation psychique et collective* (first published by Aubier in 1989), or remained previously unpublished: *Histoire de la notion d'individu*, which was an appendix to his doctoral thesis, and several supplementary essays. I briefly refer also to *Du mode d'existence des objets techniques* (1989 [1958]), *L'Invention dans les techniques* (2005b) and *Deux leçons sur l'animal et l'homme* (2004). There is also the *Cours sur la perception* (published in 2006), which I will not use here.

The project developed in Simondon is useful for our purposes because it proposes a general theory about the physico-biological genesis of the individual applicable to all living things, and because its starting point is not the individual as pre-given entity, but as that which itself requires to be accounted for. This marks a shift away from, on the one hand, the substantialist ontology privileging the individual as already constituted, a view that founds the individual on itself as first principle; on the other hand, it rejects the hylemorphic approach that, while positing individuation as arising from the encounter between form and matter, privileges form and thus assumes that there exists a principle anterior to individuation that animates it. Immediately, parallels with the arguments of Varela and colleagues, or Lewontin and Oyama, surface concerning the relationship of matter and form, and the standpoint of becoming as processual and relational. As Simondon argues, the stumbling block to a proper understanding of individuation is the problematic that regards matter and form as having been constituted prior to their encounter; he instead elaborates a position that conceptualizes matter and form as arising in their specificity in the course of individuation, with the difference that in the case of the living there is 'perpetual individuation, which is life itself' (2005a, p. 27). What Simondon proposes is to consider individuation entirely in terms of ontogenesis, such that the individual is understood 'by way of individuation rather than individuation starting from the individual' (Simondon 2005a, p. 24); this accords with the conceptualization of being as fundamentally 'more-than-one', and thus always provisionally constituted in relation to the milieu: 'being is never one ... it is more-than-one' (2005a, p. 326; see also Ettinger 1995, 2006; Venn 2000).

What this displacement brings into view is the individual–milieu couple. The individual is thus less than the whole of being and results from a state of being in which it exists 'neither as the individual nor as the principle of individuation' (2005a, p. 25). Instead, there is constant becoming, that is, constant individuation, arising from the metastability in all living systems, combining matter, form and energy in the genesis of new individuals out of a preindividual reality. Ontogenesis here would refer to the phases of being unfolding in terms of this process of constant becoming; this is why for Simondon: 'Becoming is a dimension of being ... individuation must be grasped as the becoming of being' (2005a, p. 31). An important difference separates the living from the non-living in that for the latter (say the crystal) individuation (crystallization) takes place as a sudden and definitive movement producing a duality of milieu and individual. For the living, by contrast, becoming describes a relation whereby both the milieu, as heterogeneous system, as well as an individuated being are altered by the latter operating as subject in the course of a permanent process of mutation; accordingly, 'The living is theatre and agent of individuation; its becoming is a permanent individuation' (2005a, p. 29). This relation,



besides, is ‘an aspect of the internal resonance of a system of individuation’ (2005a, p. 29), an aspect that relates to metastability as a characteristic of all living things—metastability being understood in terms of the entropy (or degree of disorder or randomness in a closed system) and potentiality existing in a system, and, ultimately, in terms of the non-linear wave mechanics of quantum theory (2005a, pp. 28, 29, 35). The reference here is probably to the quantum physicist Louis de Broglie’s work, though the scarcity of references in Simondon means one has to guess from the context; however, the references to internal resonance and to Bergson, and more explicit references to de Broglie elsewhere in the text (e.g. 2005a, pp. 124–148) when summarizing the debates around wave mechanics and Einsteinian physics, also point to de Broglie’s groundbreaking work on wave mechanics as source; interestingly, the latter discusses duration, and Bergson’s intuition about the non-deterministic structure of reality, features that Simondon also discusses—taking a position closer to Merleau-Ponty than to Bergson [bearing in mind Merleau-Ponty’s (2001) critique of Bergson in his lectures on the latter, and Simondon’s closeness to Merleau-Ponty, to whom his major work is dedicated]. The emphasis on metastability throughout Simondon’s grand theory echoes other theorems in the physical sciences, relating to non-linear far-from-equilibrium systems, dissipative structures (Prigogine and Stengers 1979) and autocatakinetic systems, such as flames, tornados, cultures, that is, systems endowed with self-organizing capacity producing spontaneous order, characteristic of living organisms. Schrodinger (1945), for example, thought of living things in terms of streams of order that can exist because they feed off negentropy—or potentiality or ‘free energy’—in their environments. This line of thought is worth pointing out simply because Simondon takes modern physics’ theories about reality to justify extending quantum theory’s view about the interpenetration and interdependence of all things (at least at the sub-atomic level) to his analysis of the living. The distinctions between the living and non-living become crucial because of Simondon’s stress on relationality as characteristic of vital reality generally and human beings more extensively. Additionally, for human beings, besides an affective sub-stratum, which all vital entities share, the relation to a symbolic and to a technical world introduces an historical and developmental dimension that comes into the account of human specificity (Leroi-Gourhan 1964, 1971 [1943]); such a view is elaborated in Stiegler’s work, among others, moving beyond Simondon’s more general theory—though, for Stiegler, relying on it (and Leroi-Gourhan).

What is crucial for the living is not only the fact of constant becoming, but the ‘adaptive relation’ to the world, a world which has both a preindividual and a collective or transindividual dimension. Simondon finds here the link to affectivity: ‘affectivity and emotivity ...[constitute] the resonance of being in relation to itself, and links the individuated being to a preindividual reality which is associated to it’ (2005a, p. 31). This process is marked by a relation to the inside and the outside of the individual that Simondon understands as participation (cf. also Stiegler’s 2005, emphasis on participation as an aspect of the economy of desire). The latter, for humans, involves appeal to concepts of subject as well as psyche:

The psyche is the pursuit of vital individuation by a being, who, in order to resolve its own problematic, must itself intervene in the action as an element



of the problem, as a *subject*; the subject can be thought of as the unity of being existing as an individuated living thing and as a being who represents its action in the world as an element and a dimension of the world. (2005a, p. 29, original emphasis)

One could interpret this as reference to the work of a self-reflective consciousness, yet: ‘the psyche cannot be resolved at the level of the individuated being alone; it is the foundation of participation to a much larger individuation, that of the collective’ (2005a, p. 31). There are interesting similarities as well as differences here with Stiegler’s emphasis on participation as a core element of singularity, relating it to the power to act (*puissance*) and thus to potentiality (Stiegler 2005, p. 53), and to the relation to the other within an economy of desire, the latter being tied at a different level to the noetic or intellect (Stiegler 2005, p. 41; see also Venn 2009). This difference in Stiegler concerns the emphasis on the symbolic milieu, thus a socio-cultural dimension which, though recognized by Simondon in the importance he attributes to signification in relation to collective individuation (see below), is only partly developed.

So, for the moment we can take it that the individuated being has an existence in relation to pre- and transindividual realities; it is a phase in the unceasing dynamics of becoming; and that, furthermore: ‘being does not have the unity of an identity ... it has a transductive unity’ (Simondon 2005a, p. 31). For Simondon, transduction is:

... a physical, biological, mental, social operation whereby an activity is gradually extended inside a domain, its diffusion being based upon a structuration of the domain occurring from one part to another: each region of constituted structure serves as principle of constitution for the next region, such that a modification is thereby gradually extended at the same time as the structuring operation. (2005a, p. 32)

An example of basic transduction is provided by the case of crystal formation. He adds that: ‘The transductive operation is an individuation in process ...it can be applied to ontogenesis and is ontogenesis itself’ (2005a, p. 33). There is another level of the concept, that will become clearer later, that extends its deployment to the level of affectivity and emotivity: ‘The psyche is neither pure interiority nor pure externality, but permanent differentiation and integration according to a regime of associated causality and finality that we call transduction’ (2005a, p. 247). In his work, transduction is clearly one of the key concepts, providing the theoretical ground for a general theory of individuation, from the simplest organism to psychic and transindividual beings. Transduction is not to be confused with the dialectic, for there is no negativity, there is instead potentiality, while time does not have a prior existence as (historical) frame within which (dialectical) genesis and transformation takes place, but is the expression of the ‘dimensionality of being in process of individuation’ (2005a, p. 34). One implication for Simondon is the replacement of the concept of form by that of information within the frame of metastable equilibrium (for living beings), although information here is not to be understood as ‘signals or support or vehicles for information, as the technological theory of information tends to do’, as in the cybernetic model of transmission (2005a, p. 35; see also Simondon’s



critique of Norbert Wiener [2005a, pp. 220–224], especially of the latter’s limitation of information within a negentropic problematic, that is, the minimizing of randomness or noise), nor simply in terms of quantity or quality, for: ‘Beyond information as quantity and information as quality, there is what one could call information as intensity’ (2005a, p. 242). Intensity, it must be said, is thus understood within the problematic of energy, in terms of potential and potentiality (rather than simply negentropy, or for that matter, associated with vitality viewed as an occult force, as ‘ghost in the machine’, as Oyama (2000 [1985], p. 128) has put it in her critique of vitalism), and ultimately in terms of difference, recalling Bateson’s notion of information in the formula: ‘the difference which becomes information by making a difference’ (1980, p. 78) and ‘a difference which makes a difference is an idea or unit of information’ (1973, p. 288). Furthermore, Simondon relates psychic being to a symbolic domain when he proposes the ‘inherence of signification to being’ (2005a, p. 242), thus a different ontology within which psychical being appears: ‘The individual is that through which and that in which signification appears ... the individual is the being who appears when there is signification’ (2005a, p. 263). But ‘signification is relational’ (2005a, p. 223), and relates to a disparity or irreducible difference of scale or quality. Simondon thinks that, in living entities, resolution of that kind of difference entails a topological configuration of constituting elements (2005a, 224ff.), once more suggestive of the non-linear dynamics among heterogeneous elements in metastable equilibrium.

This basic conceptual framework relates in a direct way to the notions of associated milieu (*milieu associé*) in that the individual is never taken to be an isolated being or event but exists in relation to a dynamic mobile system: one must ‘grasp the individual as activity of the relation, not as the end-product of that relation’ (2005a, p. 63). The individual, in a sense, is a splitting within the whole system of individual-associated milieu within which its genesis takes place, and such that they form a couple: ‘the associated milieu is the complement of the individual in relation to the original whole’ (2005a, p. 63). There are thus the following ‘realities’ in the foundation of individuation: the relation, which is ‘the exchange between the intrinsic and the extrinsic ... this system of internal, singular resonance of the allagmatic relation between two scales’ (2005a, p. 62); and the milieu, which is ‘the very activity of the relation, the reality of the relation between two orders that communicate through a singularity’ (2005a, p. 62). This means that for the individual: ‘it is by means of the associated milieu as intermediary that it is linked up with what is greater than itself and what is smaller than itself’ (2005a, p. 65). The individuated being is thus always a part of a heterogeneous ensemble in a permanent state of differentiation (suggesting the Derridean *differance* perhaps?) in which each level—preindividual, transindividual and individual—and each element is the condition of possibility for the next.

Yet the human individual occupies a particular place because of the psychical dimension. Simondon posits signification, thus also the intelligibility of the world, as the touchstone for this distinction. The latter is explored in terms of the difference between individuation and individualization, although ‘individualization continues individuation’ (2005a, p. 264), while ‘The individuated being tends towards singularity and incorporates the accidental in the form of singularity’ (2005a, p. 265).





Each individuated individual is a ‘mixture of individuation and individualization’ and is expressed in the form of ‘personality’ which is the ‘principle of the differentiated and asymmetrical relation to the other’ (2005a, p. 265). Simondon adds that: ‘The concrete human being is neither pure individuation nor pure individualization, but a mixture of the two’ (2005a, p. 265). The relation to the milieu occurs at both levels, though for individualization the relation to the milieu takes place ‘through emotion’, especially when it bears upon ‘being in its particularity, through the property of familiar objects, regular and customary happenings, integrated into the rhythm of life’ (2005a, p. 266). The implication, then, is that emotion is a specification of affect with regard to feelings arising in the here and now of an existent world, that is, with regard to its specific objects, people, rhythms, sensations; we could say that emotion is ‘socialized’ affect, if we take ‘socialization’ to be a doubling or transduction by way of the relation to the other and other bodies/objects. For this reason, Simondon grants psychic processes a greater part in individualization; yet, because the vital and the psychic are co-related, ‘thought and life are two complementary functions’: ‘the body is the associated milieu which is complementary to thought’ with regard to living beings (2005a, p. 267). Strictly speaking: ‘there is no psychic individuation, but an individualization of the living that gives rise to the somatic and the psychic’ (2005a, p. 268). One could note here the closeness to Merleau-Ponty’s conceptualization of the body–mind complex, which is to be expected, given Simondon’s avowed debt to him (see Venn 2008, 2009 on this complex).

I should note that what he is calling ‘personality’ occupies an important place in Simondon, though we may have to reconstruct this rather fuzzy concept—inbetween singularity, the self and identity—later. For him, it is what ‘maintains the coherence of individuation and the permanent process of individualization; individuation occurs only once; individualization is as permanent as perception and on-going conducts ...individuation is unique, individualization is continuous, personalization is discontinuous’ (2005a, p. 268). This line of thought introduces the experiential and the ‘environmental’ as determining parameters in generating differences, and thus also the idea of singularity by reference to a conscious being or ‘self’, one who is able to recognize a disparity between itself and the milieu of which it is part; one should add to this the recognition of the temporality of being and the effect of the symbolic milieu on what this recognition means for singular beings. Simondon seemed to take account of this when he says that consciousness of finitude and fragility are dimensions of ‘spirituality’ (2005a, p. 251). Though it remains troublesome [see Stengers’ (2004) critical view of the Simondonian apparatus], spirituality has a specificity in Simondon:

Spirituality ...is the signification of the coherence of the other and the same in a superior life.... Spirituality is the meaning of the relation of the individuated being to the collective, and thus also the foundation of this relation.... It is the respect of the relation between the individuated being and the preindividual which is spirituality. It is essentially affectivity and emotivity. (2005a, p. 252)

Another aspect of spirituality arises from the recognition of insufficiency or incompleteness—lack, perhaps—as characteristic of the human being. One could usefully contrast this view with Stiegler’s understanding of the ‘spiritual’, since for him the



sense of incompleteness is tied to the anticipation of a to-come and to a ‘libidinal’ desire inciting a state of being that cannot be fulfilled in the present, or by what satisfies the drive—‘The libido is not the drive.... Libido opens onto the symbolic register’ (Stiegler 2007, p. 337). This suggests that an affective economy is at the heart of the search for fulfilment that requires the anticipation of a to-come; the theme of being as project, and the various narratives in which such a ‘vocation’ can be transcribed—religious, political, existential, utopian—can clearly be aligned with this view of libidinal economy, elements of which one finds in Stiegler. As in Simondon, singularity and individuation are conceptualized within the scope of a project that’s necessarily collective since it requires a relation to other(s) and participation.

The upshot for Simondon is that affectivity is not simply a state, one must instead speak of ‘affective exchanges’ (2005a, p. 252). He goes on to explain that the ‘affective-emotional’ state effects a transformation between two states of being:

...emotion is that individuation which is in process in the transindividual instance, but affectivity precedes and follows emotion; it is, in a subject-being, what translates and perpetuates the possibility of individuation into a collective ...it is mediation between the preindividual and the individual. (2005a, p. 252)

Simondon seems to distinguish emotion and affect by way of action carried out as an expression of individual participation in a collectivity; one could say that affect in that sense is a potentiality inherent in living beings. Action and perception are involved in this process, energized by synergy between two metastable states of equilibrium:

Emotion implies the presence of the subject in relation to other subjects or to a world that problematizes it as subject.... [E]motion is the signification of affectivity in the way that action is that of perception. Affectivity can thus be considered as the foundation of emotivity ...[a]ction and emotion are correlative, but action is collective individuation grasped on the side of the collective, in its relational aspect, whilst emotion is that same individualization of the collective grasped in the individual being to the extent that it participates in that individuation. (2005a, p. 253)

The problematization of the human subject through self-reflexive action and thought overflows emotion alone for it is linked to anguish which is ‘pure impact of the subject within itself’ (2005a, p. 255), the index of a ‘more-than-being’ (2005a, p. 258). Once more we encounter this thought of a projection of being beyond the present, a tending towards, thus a waiting for unknown becomings that paradoxically unravels the individuated being, puts it in question. The problematic of affect and emotion which Simondon develops links up with becoming thus: ‘affectivity is far from being simply about pleasure and pain; it is a way for the instantiated being to locate itself according to a vaster becoming; affection is the index of becoming’ (2005a, p. 260).

The vaster becoming, besides bringing into view the pre- and transindividual framing of individuation, highlights the interaction between the individual and



the group. Such action is not to be thought in terms of the ‘influence of the group on the individual’ since the latter exists as always-already ‘grouped’, and the latter is not an interindividual product, it has no effectivity except as the life of individuals acting as members of groups (2005a, p. 298). Simondon introduces the effect of belief in accounting for the process of belonging, neglecting in this, it must be said, the effects of technics or a technical apparatus inscribed in a material world—thus of assemblages or *dispositifs*, that is, pragmatic and purposive disposition of elements—in the co-constitution of specific individuals and the group. Although he recognizes the role of infrastructures, such as the socio-economic mode of the relation to the milieu, this neglect of the reality of *dispositifs* and assemblages or *agencements* that modulate exchanges between world and being is ironic, given that Simondon is ‘the thinker of technics’ (Stengers, 2004, p. 59; see Simondon 1989 [1958], *Du mode d’existence des objets techniques*). It means that the link between affect and becoming is largely circumscribed within the framework of transindividual action, ‘above biological, biologic-social and interindividual relation’ (Simondon 2005a, p. 302) while mechanisms of solidarity are thought secondary:

The interindividual relation goes from one individual to another; it does not penetrate individuals; transindividual action is what enables individuals to exist together as elements of a system that includes potential and metastability, anticipation and tension, then the discovery of a structure and a functional organization that integrate and resolve that problematic of embodied immanence.... The transindividual ...enables individuals to communicate by way of signification: what is primordial are the relations of information, not relations of solidarity. (Simondon 2005a, p. 302)

There is a problem here in this association of signification to information but not to solidarity, that is, not to the effects of affect in binding individuated beings into groups. What is missing is the historicity of the processes of becoming, thus the distinction between change and becoming, and a strong sense of the embeddedness of the processes of individuation within a world which is plural in relation to other human beings and to creatures considered as an heterogeneous, dynamic and co-constituted ensemble. This too is ironic, given that Simondon, in his critique of Descartes for example, especially the Cartesian privilege of mind and its exclusive attribution to humans, suggests the possibility that animals may be capable of ‘consciousness’ and of acquiring faculties for intelligent and ‘rational learning’ and ‘problem-solving’ (Simondon 2004, p. 78). Furthermore, it is Simondon’s objection to the ‘somato-psychic opposition’ that leads him to problematize the dualism between the animal and the human, arguing that this dualism is grounded in the same opposition (Simondon 2005a, p. 271). I shall return to this wider sense of ‘vaster becoming’ in my conclusion.

For now, it could be argued that Simondon in his earlier work was more concerned with a general theory of individuation and its application to human beings, hence his exclusive focus on collective action as the mechanism that provides an explanation for the differentiation of the human subject as singularity and as a ‘grouped’ individual. Information and signification play a central role in this: ‘The existence



of the collective is necessary for information to signify ...signification exists ... by way of beings.... Signification is a relation between beings, not a pure expression, signification is relational, collective, transindividual' (2005a, p. 307). Beings inscribe a psychosomatic dynamics whereby they are attached to the preindividual phase and to the collectivity. Being thus is neither pure unity nor pure plurality, so that the subject does not coincide with the individual (as Freud assumed, Simondon 2005a, p. 309). The subject, in the Simondonian problematic, is an ensemble of pre-individuated and individuated realities, thus pregnant with 'virtualities' or 'potentialities' (2005a, p. 310) and still open to further individuation through the collective or group. He says: 'Gathered together with others, the subject can be correlatively theatre and agent of a second individuation that gives birth to the transindividual collective and binds the subject to other subjects' (2005a, p. 310) Every particular being is thus more than an individual, combining the status of an individuated being with that of member of a collective, while remaining open to constant becoming as revealed by the standpoint of ontogenesis and the persistence of the preindividual reality within the individuated being. We come back again to the conceptualization of being as fundamentally 'more-than-one', and thus always provisionally constituted in relation to the milieu: 'being is never one ...it is more-than-one' (2005a, p. 326; see also Ettinger 1995, 2006; Venn 2000), a view which Simondon opposes to the 'substantialist monism' of Spinoza or the identity of 'substance and individual' in Leibniz (2005a, p. 326). This ontology is consistent with the view of relationality as allagmatic, that is, as concerning elements constituted in the course of the relation but not pre-existing the relational act; one implication is that the collective has an ontogenesis which is bound up with individuation through emotion as the embodied expression of a disparity between the preindividual, the transindividual and the individuated being, a disparity that motivates further individuation:

[E]motion is preindividuality expressed at the heart of the subject, and thinkable in terms of interiority or exteriority ...it is the exchange, in the interior of the subject, between the charge of nature and the stable structures of the individuated being, the exchange between the pre-individual and the individuated being, it prefigures the emergence of the collective.... [T]he individual communicates by means of emotion and adapts itself in relation to it ...but neither the pure individual nor the pure social can account for emotion which is the individuation of preindividual realities at the level of the collective instituted by this individuation. (2005a, pp. 314, 315)

It should be clear from the above that in the Simondonian problematic, emotion, and, more generally, the affective economy, is grounded in the process of adaptation and disarticulation of the individual with respect to these two constant phases of the individuated being, namely, the pre- and the transindividual; neither emotion nor affective economy exists outside this field of emergence. The human subject is constituted out of these basically transductive operations, whereby 'qualitative or intensive gradations become extended' (2005a, p. 319)—another neat rejection of the intensive/extensive duality—as the instantiation of potentialities. One of these potentialities is the individual as a being who can have 'an interiority, a conduct, wills, a responsibility, or at least a coherent identity



which is of the same order as responsibility' (2005a, p. 321). But this is not to be reduced to identity, for 'the relation of being to itself is infinitely richer than identity' (2005a, p. 318); yet 'being is not plural in the sense of enacted plurality: it is more productive than coherence with regard to oneself' (2005a, p. 326). This idea of productivity as permanent individuation keeps being in touch with a wider process of becoming, such that 'individuation is thus located in relation to being' (2005a, p. 328), that is, in relation to an ontology.

Simondon's theory of affect, by locating it within the frame of a 'vaster becoming' supporting an ontology of being as becoming in relation to others and to a world, and by making a place for singularity, enables us to construct a link with other critical phenomenological approaches that break with subject-centred philosophies or 'egologies', to refer to Levinas' term for such standpoints (see Venn 2000). In particular, the emphasis on the more-than-one character of being and the importance of meaning in orienting every being's desire for further individuation or becoming, opens on to an (heteronomous) ethics. His theorization of information plays a central role here, for, in his account, it links the study of individuation with a theory of being:

Individuation is thus located in relation to being ...it is the appearance of information inside the system of being ...there is information only as exchange between the parts of a system capable of individuation, for in order for information to exist, it must have a sense, it must be received, that is, it must be able to effect a particular operation.... Information is what spills over from one individuation to another, and from from the preindividual to the individuated.... One could say that information is simultaneously interior and exterior; it expresses the limits of a sub-assemblage; it is mediation between each sub-assemblage and the whole assemblage. It is the internal resonance of the ensemble to the extent that it is made up of sub-assemblages. (2005a, pp. 328, 329)

One is reminded of Jean-Luc Nancy's notion of being as singular plural, in that:

Being cannot be anything but being-with-one-another, circulating in the with and as the with of this singularly plural coexistence.... But this circulation goes in all directions at once ...opened by presence to presence: all things, all beings, all entities, everything past and future, alive, dead, inanimate, stones, plants nails, gods—and 'humans', that is, all those who expose sharing and circulation as such by saying 'we'. (2000, p. 3)

The question for Simondon is whether a theory of individuation can be the basis for an ethics, by way of the concept of collective individuation and information he develops. Thinking of communication as 'identical to the internal resonance of a system in process of individuation' (2005a, p. 330)—one is reminded of attunement here—and thinking of values as 'that whereby the norms of a system can become the norms of another system through a change in structure ...norms brought to the state of information' (2005a, p. 331), he links both to individuation and becoming: 'Norms and values do not exist prior to the system of being in



which they appear; they are integral to becoming' (2005a, p. 333). He concludes that:

Ethics is the sense of individuation, the sense of the synergy between succeeding individuations. It is the sense of the transductivity of becoming.... To postulate that the sense of an interiority is coupled to a sense of an exteriority, that there exist no lost islands in becoming as process ...is to assert that each gesture has a sense of information and is symbolic in relation to life as a whole and to lives as an ensemble. There is ethics to the extent that there is information, that is, signification that overcomes a disparity amongst the elements of being.... The value of an act is not in its universalizable character according to the norm it implies, but the efficacy of its real integration into a network of acts that makes up becoming ...the reality of ethics has the structure of a network. (2005a, p. 333)

Acts extend beyond themselves into a collectivity and into the future while subsuming the past; they are imbued with 'generosity' so that 'ethics is that whereby a subject remains a subject, refusing to become an absolute individual ...an autonomous singularity' (2005a, p. 335). By remaining a being-with-others-in-process, subjects-in-relation constitute a world in common. Yet Simondon's ethics, while emphasizing the ontologically primordial character of the relation to the other, remains abstract even though it recognizes the historicity of all becoming. There is a suspicion of an attempt at naturalizing the foundation of ethics, an approach that raises all kinds of problems, and ignores the point of view of an apprenticeship, thus a symbolic and cultural dimension, regarding ethical conduct (see Hollway 2008 and Venn 2000, for a relational psychological approach). It ignores too the point of view of the I-other compossibility as constitutive of the collaborative solidarity binding groups and for which affect functions as a kind of glue; unfortunately, I have no space to deal adequately with this problem in this article.

The Simondonian apparatus, to summarize, seeks to be a general, transdisciplinary theory of the living, proposing to describe the basic mechanisms applicable to all forms of being, while specifying the distinction marking the human at the level of psyche and affectivo-emotional life. The linking of individuation to becoming as fundamental, the elaboration of concepts like associated milieu, relationality as allagmatic, affect and information as processual—thought in terms of nested loops—and the demonstration of their co-articulation in the dynamics of metastable becoming, provide clear directions that echo more recent approaches to cognition, affective economy and group behaviour in the life sciences, the neurosciences and elements of psychosocial studies. Furthermore, his ontology of individuation supports a flat ontology to the extent that it refuses the privilege of the human being over other living beings and proposes the radical interiority of the human to the rest of the vital and material world—hence also his points about the proximity of the human to other creatures.

Relationality and affect are firmly located in relation to the more-than-one, plural character of beings, and the contingency of all becomings. We could say that Simondon demonstrates that neither the relation nor affect can exist if, counterfactually, there were to be but one entity in the world; they require that there be at least two



beings. Affect between living beings is like gravity for physical bodies since gravity too requires that there be more than one body in the universe. No less than gravity, affect is not an immaterial thing secreted by bodies. In short, affect, as a relational force or energy, is radically interior to the relation and not an outside force. It follows too that it is not an attribute or property of individuals, though it has effects, experienced as feelings (pleasure, fear, etc.) and as emotions (sadness, joy, shame, etc.) that are culturally modulated feelings.

A problem about singularity remains, that is, the sense of a self or an interiority secured in terms of ontological security and existential continuity, even if the other necessarily dethrones the self (Ricoeur 1992; Venn 2000) and provokes becoming and the plurality of the self. A tension is immanent in this process (or existential condition), that one can understand as an aspect of metastability, inducing subjective change—unless change is blocked through totalizations of one kind or another, such as in varieties of fundamentalism. Affect as relational energy or potentiality participates in these processes of change. A whole range of problems comes to the fore here, relating to memory (at biographical and historical levels, that is, the individual and transindividual levels), trauma (because of disjunctions at the levels of identity, identification and belonging, psychic disturbances, and so on), and the role of the aesthetic in the process of becoming. When one thinks about the mechanisms and the disciplines required to address these problems—the neurosciences, physiology, narrativization, reflexivity, hypomnematas, working-through, etc. (Stiegler 2005, 2007), the artwork (Ettinger, say, or Massumi 2002b)—it is clear that a cross-disciplinary research programme is indicated.

## Conclusion

In guise of a conclusion, one could group these problems in terms of several inter-related themes: first, the elaboration of the mechanism of primary, secondary and tertiary identification, whereby a human being is constituted as a particular subjectivity and as a member of a collectivity—this range of issues would require the theorization of processes that psychoanalysis had taken as its objects, but that are now increasingly understood away from subject-centred ontologies, so that the I–other(s) relation is foregrounded; second, the problem of making explicit that the system of nested networks within which the human is inscribed includes all living species, thus all animals and plants, from bacteria to the most complex organisms; third, the historicity of the worlds which constitute the symbolic, technical and psychic milieus as conjoined assemblages, and in which power operates to limit or enable particular subjectivities and ways of life; and, finally, the rethinking of ontology and ethics, thus politics, in the light of the above.

The first set of problems relate to the fact that the analysis of the affectivo-emotional dimension in Simondon is limited to theorizing the mechanisms in terms of ‘information’ and ‘signification’, while it is not clear how one can translate from the theoretical framework to the experiential level of lived affect. Additionally, though he rejects the body–mind dualism, his work underplays another crucial layer or level, that of the cognitive-affective ensemble, relating to the primary processes



constitutive of an I, within an I–other process and relation (Ettinger, Merleau-Ponty, discussed in Venn 2009), whereby body–other–world form this triune, mobile milieu. The self as a particular subject, or as what Simondon was trying to get at through the idea of ‘personality’, begins to take shape at this level of psychosomatic activity and relationality concerning the early years of subject formation through mechanisms of identification and individualization. The kinds of conceptual questions left to be explored are probably best illustrated by considering the problem of the effect of trauma on subject formation. An extensive literature, developed in clinical practice, now provides essential material for such an exploration, particularly concerning the mother–infant relation and the therapeutic process of trying to overcome the pathological effects of trauma at this early stage of formation of subjectivity, usually expressed in an inability of the mother to bond with the infant. Amanda Jones (2006) recounts the case of an infant who was born six weeks premature with jaundice, whose mother could not develop any feelings of warmth for her. She felt disconnected from the baby and had nothing but negative feelings for her, expressed bodily through an inability to hug, to maintain eye contact, or play and so on. The infant’s response was an avoidance of the mother’s gaze (that communicated fear, anxiety, etc.), indifference to her and shunning play activity with her, indicating already the co-constitutive character of this process of formation and the relational nature of affect. The problem was overcome through intense work, involving the labour of working-through with the mother to explore her own experience of trauma in childhood, alongside the creation of a ‘triangular space’ (Jones 2006) for reconstituting bonding, holding and emotional attachment in the infant–mother relationship. There are many things happening here that would require a whole article to unpack. I’ll simply list the following: the importance and complexity of the primary process of identification during which affect becomes concretized in the form of embedded patterns of interaction; the importance of the gaze and the face, and touch, in this process of formation, and in modulating affect; the relational character of affect, in that it always requires more than one person and body; the intergenerational transmission of the ‘quality’ of affect, starkly evidenced in the case of disturbed parent–infant attachments, so that trauma itself is transmitted; the always-already psychically marked character of affective relations—one could explore the effects of experience on changes in the brain related perhaps to neural plasticity (Clark 2008; Flanagan 2009); the differential operation of affect in the process of co-constitution at both the preindividual and the transindividual levels. The failure of what is supposed to be an instinctual or naturally occurring phenomenon such as mother–infant bonding, is seen to depend on many conditions, including memory, psychic disturbance, cathected objects, technology (here the incubator), non-conscious body-to-body interaction and exchanges. In particular, the process of individualization or formation of subjectivity appears here to require an account of affective economy that shows up the limitations of conventional psychoanalytic theory and the Simondonian vocabulary.

The problematic of affect in the process of subject formation, when challenged by phenomena such as trauma, obliges us to recognize the shifts indicated by findings in the neurosciences alongside the more integrated approach to the living-as-process pioneered in the work of Simondon. This means re-articulating notions of





‘information’ and ‘signification’ to ground them in the choreography of the I–Other relation, and in the concrete, experiential forms of non-conscious and proprioceptive communication that take place through touch, smell, the gaze, movement, sound, taste occurring directly between bodies, and sensed as a tacit knowledge of oneself and the world that doubles as an embodied way of being-with-others. A different, non-Freudian, understanding of the unconscious and the imaginary would ensue. The elements for this reconstitution appear in an heterogeneous literature, from André Green’s (1999 [1973]) analysis of affect in the psychoanalytic apparatus in *The Fabric of Affect* [see also Guntrip’s (1961) survey of the psychodynamic theory of the ‘individual person’] to the more recent work of writers like Bracha Ettinger (1995, 2006), who has proposed the notion of a matrixial sub-stratum framing the I–Other relation and its affective economy. In an effort to construct a new conceptual apparatus to flesh out her approach, she has invented a series of concepts: matrixial gaze, co-emerging I and non-I, subjectivity-as-encounter, the I–Other plurality or severalty co-poiesis, wit(h)nessing, and so on, that mark out the terrain for a post-Freudian and post-Lacanian problematic of subjectivity (see the elaboration in Venn 2004, 2006, 2009). It is important to add that this reconstitution would need to take account of the kind of clinical work discussed by practioners like Cathy Urwin and Amanda Jones, and, in the light of this, re-examine the contributions of people like Winnicott, Bion and others. One would then be able to specify affect as a relational force in terms of the following interconnected modalities: the relation to the physical world of other bodies and objects, the relation to the other and the relation to self.

The second set of issues is admirably summarized in Haraway’s notions of companion species and significant otherness. She has this to say about beings that resonates with much of what I have trailed above:

Through their reaching into each other, through their ‘prehensions’ or graspings, beings constitute each other and themselves. Beings do not preexist their relatings. ‘Prehensions’ have consequences. The world is a knot in motion.... There are no pre-constituted subjects and objects, and no single sources, unitary actors, or final ends. In Judith Butler’s terms, there are only ‘contingent foundations’; bodies that matter are the result.... For me, that is what companion species signifies. (2003, p. 6)

She emphasizes ‘emergence, process, historicity, difference, specificity, cohabitation, co-constitution, and contingency’ (Haraway 2003, p. 7)—partly invoking Whitehead’s work—are precisely the conceptual markers that we find in the authors and positions that I have outlined. This approach to the relationality of the living—of players as ‘neither wholes nor parts’ (Haraway 2003, p. 8)—and to the human as one entity intertwined among the cohort of organisms and objects of the world, as always more-than-one, implies the co-implication of vulnerabilities and thus a rejection of all forms of colonialism and anthropocentrism, that is, of difference-as-antagonism or as excuse for ontological violence through exploitation of one kind or another. It suggests a politics of ‘significant otherness’ oriented to ‘on-the-ground work that cobbles together non-harmonious agencies and ways of living that are accountable both to their disparate inherited histories and to their barely possible but absolutely necessary joint futures’ (Haraway 2003, p. 7). This politics—of



generosity, of welcoming the other, of indebtedness, examined in Venn (2000)—is allied to a politics of ‘naturecultures’, breaking with the dichotomies that Simondon has also challenged.

In approaching the third set of questions, I would like to use Foucault’s notion of *dispositif* as a way of exposing to view the specifically human aspect of the historical and material dimension of the ‘vaster becoming’ Simondon spoke about. Foucault’s account of the term gives this explanation:

What I am trying to locate by that term is ...a definitely heterogeneous ensemble made up of discourses, institutions, architectural apparatus, regulative decisions, laws, administrative measures, scientific statements, philosophical, moral, philanthropical propositions; in short, what is said as well as the un-said, these are the elements of a *dispositif*. The *dispositif* itself is the network that one establishes amongst these elements.... [B]y *dispositif* I mean a kind of, let us say, formation that, at a given time, has as its main function the task of responding to an emergency. The *dispositif* thus has a dominant strategic function.... To say that the *dispositif* essentially has a strategic character assumes that it is a matter of a specific manipulation of relations of force, a rational and focused intervention in these relations of force, either to develop them along a particular direction, or to block them, or to stabilize them, to use them. The *dispositif*, thus, is always inscribed in a play of of power, yet it is always tied up to one or more limits of know-how (*savoir*), which emerge out of it, but, equally, condition it. That’s a *dispositif*: strategies of relations of force supporting types of power, and supported by the latter. (Foucault, *Dits et écrits*, vol. 3, p. 299, cited in Agamben 2007, p. 8–10)

What is introduced is power, knowledges, strategies, assemblages and the pragmatic worldliness of *dispositifs*. And a notion of purposeful setting to work (*agencement*), or an economy—which is Agamben’s own take on *dispositif*: ‘a theological genealogy of the economy and of government’ (2007, p. 21)—in the disposition of elements to achieve particular ends. But the concept is also very broad, providing the context for individual and collective action, yet requiring other tools to make sense of the lived aspect of action. At the level of concrete practices and know-hows, genealogies, supplemented by ethnographic studies, as in the Knorr-Cetina and Bruegger (2002) example, would be the method by which one would understand the historical contingencies and the stakes in the emergence of any particular way of doing or way of being, and the set of values and beliefs inscribed in it. That example, as I pointed out, also brought to light the intertwining of technical, discursive/symbolic, and affective sub-assemblages or associated milieus in the simultaneous constitution of (contingent) subjectivities—say, financial traders—environments and practices—for instance, the foreign exchange market, speculative betting in the futures market—in accomplishing particular tasks. The fact that the specificity and contingency of affect and bodies is locked into these milieus is evidenced when one of the respondents remarked that: ‘When someone feels the market, then they can anticipate [it] and can act accordingly. When you are away from the market, and you lack this feeling [for it], then it’s incredibly difficult to find it again’ (Knorr-Cetina and Bruegger 2002, p. 180). Belonging, becoming and acting lock into each other.



*Dispositifs* and associated milieus constitute worlds and subjects, yet they also determine the limits of the kinds of action that are possible or allowable, what can and cannot be done. However, metastability and complexity means that every situation is open to the event, to ‘disparity’-inducing newness. For example, historically, technical inventions and associated developments like the Industrial Revolution, and climatic and other changes, humanly induced or not, act as trigger for disequilibrium or crisis, and new stasis. These mechanisms have a temporal existence. For human societies, that means a historical dimension whereby the synchronic level (the here and now, the milieus) and the diachronic level (in relation to a memory, thus a neural/carnal as well as symbolic universe already affectively marked) interpenetrate. So, ontogenesis extends into epiphylogenesis (Stiegler’s 2005 term), but also into the plurality of the subject because of the heterogeneous compositions of the elements in play.

The I as singularity emerges out of this foundation too, not as a given, but as an historical and discursive entity. This is because the idea of a self as singularity—but not coinciding with the individual of ego-centred ontologies—and what Arendt (1959) calls the ‘who’, has emerged from a history of discourses that have ascribed to the human individual the idea of being a self-reflective entity endowed with the ability to take responsibility for its actions, and able to envisage the future as unprecedented, or creative, becoming. One could say that the individual possesses an interiority that doubles it as being. These discourses include those that have attributed a spiritual or sacred dimension to this view of human singularity. In post-Simondonian reformulations, as in Stiegler’s work (2005, 2008), responsibility, anticipation and project are related to the temporality and historicity of being; one could regard such abilities as co-emergent aspects of complex conscious beings. Ethics and the invention of new ways of being find a basis in this ontology too. An economy of desire underlies it and is expressed through it, so that affect can be relocated within this scheme of things, not simply as primordial force or energy (or intensity for some), but transduced in the form of emotion or socialized affect animating the economy of desire. My aim has been to indicate that thinking through how these sets of questions are interrelated opens the way for both a new understanding of the human being and a new politics of the living.

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**Couze Venn** The late Couze Venn was Deputy Director of the Theory, Culture and Society Centre and latterly Professor of Cultural Studies at Goldsmiths, University of London until his death in 2019.

