

Problems All the Way Down

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Abstract

Besieged by ongoing economic crises, global health emergencies, geopolitical instabilities, ecological devastation, and growing political resentments, the intractable nature of the problems that configure the present has never loomed larger or more darkly. But what, indeed, is a problem? Problematizing the modern image that treats problems as obstacles to be overcome by the progress of technoscientific knowledge and policy, this introductory article lays the groundwork for a generative conceptualisation of problems. Reweaving intercontinental connections between traditions of French philosophy and American pragmatism, it proffers a conception of the problematic as a mode of existence that is irreducible to the subjective, the methodological, or the epistemological. Problems go all the way down and up, requiring nothing less than an art of metamorphosis capable of engendering processes of creation, invention, and transformation in whose hold bodies and practices, knowledges and lives, thoughts and worlds, are done and undone, made and remade.

Keywords

events, French philosophy, life, metamorphosis, pragmatism, problematisation, problems

And indeed, if the poet did not already love the poem a little bit before having written it, if those who think about a future world to be made to come into being did not, in their dreams of it, find some wonderful presentiment of the presence for which they call, if, in a word, the wait for the work was amorphous, there would doubtlessly be no creation. (Souriau, 2015: 230)

Introduction: The Darkening of the Problematic

They say it is a global pandemic, that the measures are necessary, that they are too draconian, that they are ‘too little, too late’, that it is not a

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pandemic (not yet anyway), that it is due to globalisation, to climate change, to the dietary habits of others, to the stripping bare of national health systems, that it is like the Spanish flu of 1918, that it is like the financial crash of 2008, that it isn't like the Spanish flu, that a solution is coming, that it is not coming fast enough. They say it is a matter of CO₂ emissions, of biodiversity depletion, of anthropogenic climate change, that it heralds a new epoch, that we're entering the Anthropocene, the Capitalocene, the Chthulucene, the Plantationocene, that it isn't a new epoch, that the Earth needs to be saved, that it will be fine, that it is capitalism, agriculture, or the imperative of economic growth, the off-spring of colonialism, or just a question of sustainability. They say there's still time to respond, that time is short, that the devastation has already happened, that it concerns generations to come; they say the debt is too high, that borrowing is cheap, that it is a matter of investment; they say it is a crisis, a catastrophe, an opportunity, the end of civilisation and just what the modern world-system needs to usher in a new technological revolution; that the answer lies with geoengineers, with veganism, with AI, with modellers, with quantum theory, with indigenous peoples, with post-humanism and the material vitality of things; just follow the science, they say. They say that difficult choices were necessary, that this is problematic, that the people have spoken, that problems are simple, cultural, technical, economic, political, scientific, that a new planet has been discovered, that what had been thought was a planet was no planet at all, that there is no alternative, that another world is possible, that there is no Planet B.

Problems abound, unbound, they proliferate and overflow, tangle and interlace, they insist and persist. And on this turbulent Earth traversed by ongoing economic crises, global health emergencies, geopolitical instabilities and wars, extreme weather events, ecological devastation, and growing political resentments, the intractable nature of the problems that besiege the present has never loomed larger or more darkly. What's more, it is the problems themselves which are said to have become dark. As Horst W.J. Rittel and Melvin M. Webber (1973) famously put it, contemporary problems are 'wicked', for they no longer admit either consensual definitions or distinct contours, the stable parameters that would make it possible to define a finite set of potential solutions in advance, or enable those addressing them to identify a solution even if they happened to stumble upon it. Such problems, we're told, have no stopping rule, they exhibit fuzzy borders, multiple interdependencies, metastability, and an array of unforeseen consequences, such that 'every implemented solution is consequential. It leaves "traces" that cannot be undone. One cannot build a freeway to see how it works, and then easily correct it after unsatisfactory performance' (Rittel and Webber, 1973: 163).

The last 50 years have seen an increasing recognition within policy and planning circles of the overwhelming complexity of contemporary

problems. It would appear, however, that such recognition has not quite amounted to an attempt to come to terms with the nature of the problematic itself. What, indeed, *is* a problem? What is the mode of existence of the problematic as such? These are questions that the haste to produce solutions that might get a grip on the profusion of problems has never enabled to resonate. Instead, under the influence of such seminal propositions as Rittel and Weber's (1973), or Alan Newell and Herbert Simon's (1972) general theory of human intelligence as problem-solving, the recognition of the darkening of problems has largely revolved around the enlargement and reticulation of technocratic infrastructures for managing their complexity: the development, in the same period, of so-called evidence-based procedures (see Cartwright and Hardie, 2011; Savransky and Rosengarten, 2016); of precautionary principles and rules for 'responsible' innovation (see von Schomberg and Hankins, 2019; Owen et al., 2013); as well as the reorganisation of intellectual and scientific activity, not along discreet spheres of modern knowledge carved by long-established disciplines, but around problem-centred – and problem-solving – lines of inquiry in which existing modern disciplines would be differentially embedded so as to 'tackle' the grand, wicked problems of our time (see Klein et al., 2001; for critical perspectives see Osborne, 2015, and Maniglier, this issue).

Problems may have darkened, but if the very term (πρόβλημα, in Greek) – derived from the verb προβάλλω which meant 'to set before' – was originally associated with a protective barrier used by soldiers, and later came to designate all manner of obstacles, protrusions and promontories (Bianco, 2018: 9), the darkening of problems has not yet done away with their conceptualisation as obstacles to be overcome. It has not succeeded in transforming a received conception of problems as negative and provisional states of uncertainty, complication, or relative ignorance, as discrepancies between how the world is and how it should be. Nor has their darkening freed us from the assumption that regards problems as being given ready-made, owing their existence primarily to the incompleteness of existing information, to the imperfection of existing methods, or to the ungovernable multiplicity of publics concerned with them, an unruly disorganisation which sufficiently complex knowledge and policy interventions would – in principle at least – manage to dissipate: 'the problem as obstacle and the respondent as Hercules' (Deleuze, 1994a: 158). Reclaiming the question of the being of problems, of the mode of existence of the problematic, it is such a Herculean conception of problems that this special issue seeks to contest, to trouble, to problematise. For such an image is not innocent. It is the very assumption that reduces problems to negative states awaiting solution which in turn animates the technocratic response itself, associating the very activity of thought with the search for solutions, and evaluating the value of answers and solutions as a matter of adequacy, of the truth

and falsehood of its responses. Indeed, under the shadow of problem-solving, problems become mere phantoms, synonyms of what is ‘not right’, the merely negative empirical conditions that methods and practices must correct. In other words, they themselves are shadows of their proposed solutions, mere contingent moments of difficulty on the way to progress (Savransky, 2018a).

It cannot be denied that, in their quest, contemporary Hercules are called upon to perform great feats of invention. But this profusion of inventive activity is of a very particular kind, a direct heir to the 19th-century ‘invention of the method of invention’ which, as Alfred North Whitehead (1967: 96–7) remarked, became one of the defining characteristics of the modern epoch, leading, through a ‘process of disciplined attack upon one difficulty after another’, to the progressive professionalisation and specialisation of thought and knowledge. Thus, such a conception of the problematic as mere instances of negativity implicates us in a world technocratic inventions and solutions might dream of but which is not – despite all the evidence-base, precaution and responsibility – the one we find ourselves living and dying in after all: a through-and-through world all given in advance, with plenty of opportunity for human and technical error, lack, and ignorance, but with little room for novelty, for genuine addition or loss, a world ultimately governed by unshakeable principles of order, of sense, of coexistence, whose laws modern technoscience will eventually master and to which true solutions must ultimately conform.

Heeding Gilles Deleuze’s (1994a: 158) warning that we risk remaining ‘slaves so long as we do not control the problems themselves, so long as we do not possess a right to the problems, to a participation in and management of the problems’, the several articles in this special issue wager, each in their own divergent ways, that coming to terms with the darkening of problems above all requires taking seriously the dark problem of the problematic itself. That is, it demands an ongoing, risky experimentation with the proposition that problems might have a certain amount of being of their own, that they may designate a *mode of existence* that is irreducible to the subjective, the methodological, or the epistemological. Indeed, what they seek to intensify is the sense that ‘problematic’ may come to express not the *absence* of order or knowledge, but the dark *presence* of a generative otherwise that insists on the edge of the present, creating an opening which demands a response yet never determines what that response shall be, thereby giving way to an ongoing dynamics of creation and transformation in whose hold bodies and practices, knowledges and lives, thoughts and worlds, are done and undone, made and remade.

Reactivating the Problematic

At stake, in other words, is the collective attempt to problematise the problematic, to *reactivate* it against its technocratic hold so as to give

way to one and many arts of problematisation, to escape the Herculean stranglehold so as to experiment with the possibility of relating to problems otherwise. Which is to say, to step out of the progressive groove of specialised invention in order to learn to give to the problematic the power to transform our concepts, our knowledges, our lives, our worlds, to render us capable of attending to, of following, and of intensifying the geneses of worlds in the making. And such a collective attempt simultaneously demands and creates the occasion for inheriting anew traditions of problematisation which many of the articles of this special issue engage with and explore in different ways: from the tradition of 20th-century francophone philosophy and theory (Barry, Greco, Lundy, Maniglier, Savransky, Stengers, all this issue), to the propositions of the early American Pragmatists (Barry, Savransky, this issue), the philosophy of Alfred North Whitehead (Greco, Stengers, this issue), some of the contemporary trouble-making propositions of Donna Haraway (Stengers, this issue), and the issue-oriented methodological inventions of Actor Network Theory and their allies (Barry, this issue).¹ Indeed, if the reactivating of the problematic creates the occasion to examine and evaluate anew not only several dimensions of each of these styles of problematisation but also the pragmatic connections between them, it is not simply because none of them has ever succumbed to the through-and-through world that the Herculean image of problems presents us with, or just because they could be said to have sounded the depths of the problematic.² More than that, it is precisely because they have given to the dark presence of the problematic the power to transform their concepts, to engender in their own philosophical practices an ongoing experimentation with what it might mean to think, to live, to be. As such, it is in, through, and between such traditions that the problematic still enjoys a veritable adventure of articulations and re-articulations in spite of all, insisting and persisting as a conceptual wrinkle connecting many classic and contemporary questions within and across divergent paths, while becoming reinvented each time anew along singular and fertile dimensions.

Perhaps the name most immediately associated with the attempt to develop a concept of the problematic is that of Gaston Bachelard (1949, 2012; see also Maniglier, 2012; Tiles, 2006). Despite being better known in the anglophone world for his work on the poetics of space than for his philosophy of science, Bachelard in fact coined the term '*problématique*' in the course of his argument concerning the non-positivist character of scientific activity.³ Indeed, for Bachelard, the activity of science is not best conceptualised by the relations between subject and object, knower and known, and it needs no appeal to 'the bravado of universal doubt' (Bachelard, 1949: 51). Instead, it is characterised by the manner in which both subjects and objects become assembled in relation to a problematic which demands to be constructed and whose articulation as a problem in

turn distributes their relative values and positions – the scientific object becoming a subject of a problem, and the subject or knower becoming its consciousness (Bachelard, 1949: 56). Thus, the primary concern of science, according to Bachelard, is not objects but problems themselves. For more than historical facts resulting from observation, the empirical objects of science are also and above all *answers to problems*. As a result, the task that would render scientific thought distinct is not the value of objectivity, its forms of verification, or the methodological hygiene that would secure the epistemic relationship between subject and object. Given that the ‘scientific mind forbids us to have an opinion on questions we do not understand and cannot formulate clearly,’ Bachelard (2002: 25) argues in a well-known passage of his *The Formation of the Scientific Mind*, ‘[i]t is indeed having this sense of the problem that marks out the true scientific mind. For a scientific mind, all knowledge is an answer to a question. If there has been no question, there can be no scientific knowledge. Nothing is self-evident. Nothing is given. Everything is constructed’ (Bachelard, 2002: 25). This changes everything. For as Patrice Maniglier (this issue) argues in his discussion of Bachelard and the problematic, the latter’s reconfiguration of problems as the very vectors that institute the correlation between subject and object implies that neither the world nor the mind precedes problems, but that it is the problems that determine, simultaneously, the objects and the modes of thought. As a result, Maniglier provocatively suggests that rather than treating problems as obstacles to be overcome, the question itself must change, and we must ask in what way one may come to *desire* one’s problems.

The echoes already begin to reverberate across the ocean. For indeed, Bachelard’s characterisation of science as fundamentally concerned with a problematic to which it must respond yet whose determination as a problem it must learn how to pose resonates generatively, on the other side of the Atlantic, with John Dewey’s (1982) own account of problems in his work on the theory of inquiry. There, he characterised problems as states of ‘tensional activity’ belonging to indeterminate situations out of which scientific inquiry begins to grow, just as ‘the indeterminate situation becomes problematic in the very process of being subjected to inquiry’ (1982: 107). Called forth by the questioning nature of an indeterminate situation, the inquiries do not revolve primarily around the collection of data or the corroboration of facts. Practices of inquiry, by contrast, are fundamentally *problematizing*. Which is to say that they consist first and foremost in the *institution* of problems themselves, precipitating a metamorphosis of the situation that calls for them in such a way that *how* ‘the problem is conceived decides what specific suggestions are entertained and which are dismissed; what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures’ (1982: 108).

Compared to Bachelard's polemical concern with the problem of the demarcation between science and opinion, however, Dewey's project was far more ambitious. For what he pursued was the development of a naturalistic theory of logic which would in turn enable a *general* theory of inquiry. One that, premised upon a fundamental continuity between 'lower' and 'higher' activities and forms, would account both for the complex technical and experimental procedures developed by scientific inquiries as well as for the inquiring activities of 'lower' organisms in response to their practical problems. But Dewey's generalised naturalism did not for that matter seek to explain the demarcation of scientific and reflexive inquiries away. Indeed, what distinguishes the organism's response to the problem of hunger from the physicist's response to the problem of dark matter is here a difference of *degree* rather than of character: the degree, that is, to which the '*deliberate* institution of problems becomes an objective of inquiry' (1982: 35, emphasis added).

As such, what Bachelard and Dewey make present in different ways is that, to *reactivate* the problematic, to endow it with some amount of being of its own, with a genetic power that compels one to think it, to think *with* and *in response to* it, is not for that matter a question of affirming that, once again, problems are given to the mind ready-made, and that the task of inquiry would merely be to *solve* them through the progressive acquisition and verification of objective facts. One cannot respond to a problem one has not learned how to pose. And to proceed as if problems were given ready-made, as if they took after jigsaw puzzles and the task before one was merely to arrange the received pieces so as to reveal their prefigured design, is to constantly be in danger of entertaining what, before Dewey and Bachelard, Henri Bergson (2007) would have called 'false problems': not problems that are *insoluble*, but ones that are badly composed, born of a confusion between different orders of reality. That is, a confusion between the abstracted elements by which a situation is represented, and the dark, generative presence that makes itself felt in a situation and forces those who inhabit it to pose a problem in the first place.

Bergson famously illustrated this by attending to the false problems that besiege the seemingly 'eternal' questions of metaphysics, such as those concerning the nature of time, being, or freedom. Take the perennial metaphysical question, 'why is there something rather than nothing?': this problem, Bergson (2007: 78) admits, is indeed insoluble, but it is also one that 'should never have been raised'. And it should never have been raised because the *posing* of the problem itself is only possible if one 'posits a nothingness which supposedly precedes being. One says: "There could be nothing," and then is astonished that there should be something – or someone.' And yet this 'nothingness' on which the posing of the problem relies is the product of a confusion, by which we have imbued a term from ordinary language ('nothing') with a power it never

had, and have transposed it to a plane on which it has no meaning. In our ordinary experience, Bergson suggests, the word ‘nothing’ is always relative to the something we are missing. It designates ‘the absences of what we are seeking, we desire, expect’. As such, it is *something* which precedes nothing, and not the other way around. What’s more, insofar as ‘nothing’ is always relative to the something we seek, this nothing ‘would be limited, have contours, and would therefore be something’ (2007: 78).

We could even risk saying, after Bergson, that the Herculean image of problems as ready-made obstacles to be overcome is itself the case of a false problem which presupposes the unproblematic as norm and the problem as anomaly, and therefore assumes that all that is required is precisely the restoration of the norm in the face of its temporary unravelling. And yet, like nothing on something, like nonbeing on being, the unproblematic is predicated on the problematic: it is the dark insistence of the problematic which is required for such a conceptualisation of the mode of existence of problems to become possible at all. Which is to say that it is not so much *because* a situation becomes problematic that one is forced to think, to formulate a problem, to proffer a response. It is *thanks* to it. Rather than the problematic situation being less than its eventual state of resolution, therefore, the becoming-problematic of a situation always involves an *excess*, the unruly insistence of a generative otherwise which introduces an opening and precipitates its possible metamorphosis. Insofar as the problematic insists on the edges of the present, insofar as it calls upon the attention and demands a response without ever saying what that response should be, it is not the solving but the *posing* of the problem, the very dynamic of invention devoted to the possibility of posing the problem ‘well’, that itself becomes the most vital element in any response. A solution, in other words, is only ever as good as the manner in which the problem is posed.⁴ But the problematic is *felt* before it can be stated, and it is in and through the very process of inventing a manner of giving expression to the feeling which the dark presence of the problematic makes felt – that is, in the process of developing a sense of the problem – that the always ongoing and unfinished metamorphosis of the indeterminate situation that called for it gets underway, forming subjects and objects, redistributing their roles, gradually determining the contours from which a range of possible solutions will be derived, tracing the possible shapes of worlds which demand to be made but will never dictate the terms of their own making. What responses might our divergent practices become capable of, what adventures might their inventions render possible, were we to learn how to pose problems well?

The Life of Problems and the Problems of Life

To suggest that the problematic must be felt before it can be stated is also to make present that the dark presence of the problematic is never the

exclusive affair of such deliberate endeavours; that while science, philosophy, and the arts may become means of an ongoing incitement and development of open problems, *their* problems are not the only ones, and they do not enjoy privileged access to the mode of existence of the problematic itself. This is something amateur ethologists know well: that if sometimes animals cannot solve the problems that scientists present to them, this is because these are not *their* problems (see Despret, 2016).⁵ Indeed, as the articles in this special issue demonstrate, one may risk a generic characterisation of the mode of existence of the problematic, yet one can never study ‘problems’ in general. But there is more. For while it is entirely the case that nonhuman animals have their own problems, to suggest that the problematic must be felt before it can be stated is also to affirm that, whether one is talking of philosophers and physicists, or of baboons and spiders, there are problems which do not concern thought or knowledge at all. It is to affirm that, insisting at the edge of the present, the problematic makes itself felt *all the way down*, propagating its ripples over and across the very surfaces of a multiplicity of bodies and beings as it makes of their very being the metamorphic means through which it finds expression, by which it develops in singular and divergent ways.

In other words, if the problematic demands to be thought, it is first and foremost because it is *life itself* which is thoroughly problematic and problematising (cf. Osborne, 2013; Greco, this issue). Something of this was afoot in Dewey’s impulse to elaborate a naturalistic theory of logic that would account for both the cultural and the *biological* bases of inquiry. And it was there also in Bergson’s (1998: 58) intuition when he proposed, against a passive conception of the notion of adaptation, that there is no prefigured form to which an organism must adapt, that an organ such as the eye is itself the stating of and the solution to a problem of action concerning the living organism, for indeed it is life that ‘must create a form for itself, suited to the circumstances which are made for it’. But of course, it is probably with Georges Canguilhem (1994: 384), for whom philosophy was nothing if not ‘a questioning of life and therefore a threat to the idea that everything necessary to life is already in our possession’, that the philosophical and epistemological history of life-scientific problems becomes radically entangled with the nature of vital problems themselves, thereby ‘yielding to a demand of philosophical thought to reopen rather than close problems’ (Canguilhem, 1991: 35)

Thus, in his classic *The Normal and the Pathological* (1991: 144) he argued that problems are never mere accidents affecting a living organism, but the stuff of its very existence, hanging as it is on the negotiations and debates it establishes with its milieu. In this sense, therefore, a living being, no matter how rare, ‘is normal in any given environment’, not by itself, or because of its relative position within a statistical curve, but only

in relation to the problems posed to and by life in the exchanges that the organism establishes with its milieu. Only, that is, ‘insofar as it is the morphological and functional solution found by life as a response to the demands of the environment’. Living forms, he proposed, are ‘attempts or adventures’ whose value cannot be judged in terms of pre-established types, for indeed no judgement is needed at all, given that ‘value is in the living being’ and it is expressed in no other terms than in ‘the eventual success of their life. [...] Therein lies the profound meaning’, Canguilhem (2008: 125) noted, ‘of the identity between value and health, to which language attests: *valere*, in Latin, means “to be well”.’

It is not enough, therefore, to rehearse the usual saying that ‘life is complicated’, or to insist, as it is so often done in all manner of fields, from psychology to economics, in the gradualist theories of evolution which have now become part of our contemporary cultural repertoire and that hold that life is fraught with problems the living must overcome in order to survive. For such a Herculean image of living assumes that every element of a situation – organism, environment, problem – is already determined in advance, and it stages the drama of life as a trial, a competitive obstacle race which only the fittest will win out. To suggest that the problematic is not simply an accident but an integral dimension of the adventure of living amounts to a radical transfiguration of this well-established image. In the first instance, Monica Greco (this issue) argues in her discussion of vitalism and the problem of life that it requires coming to terms with the fact that, since knowledge itself is an – always incomplete – outgrowth of life, knowledge cannot but be an addition to the development of life rather than its means of representation and control. Which is why vitalism, she suggests, does not primarily concern the distinction (or lack thereof) between life and non-life, but is above all an art of living life in the hold of a problematic for whom the living become its inventive means of expression, resolution and development. Whereas the Herculean image would render the relationship between the living being and its milieu into a battle to be won by turning life into an object of investigation, knowledge, and determination, it is the problems posed by life itself, in other words, that precipitate *the genesis* of the living as such. And they do so precisely insofar as ‘the living being solves problems not only by adaptation, that is, by modifying its relation to its milieu (as a machine can), but by *modifying itself*, by inventing new external structures, by inserting itself completely in the axiomatic of vital problems’ (Simondon, 2005: 28; emphasis added).

Indeed, it is for this reason that Gilbert Simondon (2005: 29), student of Canguilhem, would characterise the living as a fundamentally ‘problematic being’, and that his theory of individuation would situate the dark presence of the problematic as the generative force at play in the genesis of living, psychic, and collective individuals.⁶ After all, the ‘problem of individuality’, Canguilhem (2008: 43) had already noted, ‘is

itself indivisible.’ What’s noteworthy about Simondon’s theory of individuation, in this regard, is precisely his concerted effort to follow being *in its genesis*, that is, to attend to the individuating process. First come the problems. Neither physical nor living individuals, Simondon (2005: 310) argues, are absolute points of departure – they are modes of resolution to problems. Which is to say that they are processes of invention and determination – of ‘information’, as he puts it – that emanate from within a heterogeneous, pre-individuated zone of being composed of singularities that correspond to the existence and distribution of potentials. As such, the pre-individuated zone is neither stable nor unstable but *metastable*: always on the brink of breaking its equilibrium by the smallest of differences, alterations, or events.⁷ Transduction, the metamorphic operation whereby metastability gives way to an activity that propagates from point to point within a domain as it redetermines the very domain in which it propagates, is precisely what Simondon has in mind when he suggests that both physical and visual individuations constitute modes of resolution to problems. Importantly, none of the elements (problem, individual, milieu) pre-exist one another, but it is simultaneously in and through such a problematising process that both the individual and its associated milieu are constituted as such.

To say that both physical and vital individuations are resolutions of problems is not for that matter to propose an effacing of their differences, a reduction of the living to the non-living. Indeed, what according to Simondon renders the living being singularly problematic is precisely that *it retains, within its own individuated being, an active remnant of pre-individuated potential*, such that every vital individuation simultaneously involves ‘an interior problematic and its involvement as an element in a problematic greater than its own being’ (Simondon, 2005: 29). Unlike physical individuations, living beings are self-problematising and perpetually problematic. For they are never completely individuated, and as such never constitute final solutions to the problems that brought them into being and that make them go on living. The living individual is more-than-one, and *problems insist and persist* in the solutions that living beings become, keeping them in the hold of an ongoing and unfinished process of problematisation and individuation with regard to their associated milieu, confronted with tensions and incompatibilities emerging in their relation, and resolving them by virtue of the invention of new functions. Indeed, it is precisely thanks to this capacity for invention, for the ongoing and unfinished development of a problematic that concerns the living while implicating its own mode of being in problematics greater than itself, that the living being is engendered. And yet this capacity for invention is not, or rather *cannot*, be ascribed, as if by fiat, to the individuating being itself, who precisely relies upon it in order to constitute itself. By contrast, one might say that it is the very problematic of life which renders the living at once capable and subject of invention, such

that the living being, 'in order to exist, needs to be able to continue individualising by resolving problems in the milieu surrounding it' (2005: 27).

It is just in this way that Simondon (2005: 29) can account for the development of the psyche and the collective 'without calling on new substances' such as mind or society, thereby replacing both the risks of psychologism and sociologism by an energetics of inventive problematisation. For indeed the point is that psychic and collective individuation are prolongations of vital individuation, inventions that the living *carries out* in its ongoing process of problematisation, as a means of *carrying on*, of developing its existence. As such 'there is, strictly speaking, no psychic individuation, but an individualisation of the living which gives birth to the somatic and the psychic' (2005: 268). With every new domain of individuation and individualisation, with the invention of every new function, there are new problems arising from the tension between the individuated being and its associated field of pre-individuated potential. The affective potentials associated with the individuation of a psyche lead to what Simondon (2005: 166) would call 'the psychic problematic' which, he suggests, 'cannot be resolved in an intra-individual manner.' Indeed, it is here, in relation to the overflowing of affectivity which is associated with psychic life, that the question of how to pose problems *well* enters the scene once again with dramatic force. For there is always the risk of drowning in one's own individuality, of being submerged in a state of 'anxiety' where the individual 'would wish to resolve itself without passing through the collective', and as a consequence 'feels its existence as a problem posed to itself, feeling itself divided into pre-individual nature and individuated being [...] becoming aware of itself as indeterminate nature [...] which it will never be able to actualise *hic et nunc*, which it will never be able to live' (2005: 250).

Hence his suggestion that the entering into the reality of the psyche must be 'an introduction into a transitory path'. For what it can give rise to, in turn, is the emergence of the collective as a transindividual milieu in which individuals exist together as elements of a system full of potential and tension, surprise and expectation, thereby integrating and resolving 'the incorporated, immanent problematic' (2005: 95). But of course, as ever, problems insist and persist as generative metamorphic potential: the social field itself exists in tension, rich in potentials lurking in its pre-individuated interstices. Our relations to others and to other worlds puts us into question as individuated beings (Savransky, 2018b). Events such as the experience of 'fear, of cosmic admiration, affect being in its individuation and they situate it anew in relation to the world; those states comprise forces that put the individual to the test of its own existence as individuated being' (2005: 259). No wonder, therefore, that in 1960 Simondon (2005: 556) would remark that a new human science would have to be neither a science of individuals nor societies but an energetics

of human and more-than-human problematisations, a science of chance encounters, of *pre-revolutionary states*, of the metamorphoses precipitated by the germinal seeds of worlds to be made, 'where an event is about to be produced, where a structure is about to burst out.'

Problematisation as an Art of Metamorphosis

Whether or not it is a *science* that human and more-than-human problematics call for, and whether an empirical study of such metamorphic processes, in the open and outside of well-defined procedures, would in any way resemble anything remotely close to what one might associate with 'human science' are themselves generative and open problems. For instance, in his article on the significance of local environmental problems for which the relevance of scientific models is far from clear, Andrew Barry (this issue) argues that environmental problems are born of a distribution of resonances and interferences across heterogeneous systems of global capital flows, physical force fields, infrastructural systems, and plant ecologies, among many others. As such, they are both geographically variable and specific to situations which in turn assemble much more than a plurality of divergent actors in contestation over the formulation of the problem. Crucially, environmental problems are also engendered by a powerful – if less readily observable – multiplicity of processes of geohistorical change and ongoing transformations of living environments which, pre-existing the contingent contestation over the problem's formulation, have never become a matter of public concern. An empirical study of the genesis of environmental problems, Barry suggests, can therefore only be generatively articulated through a practice of *abductive problematisation*: risking a leap beyond what is given in perception so as to trouble the publicly established boundaries through which a problem is posed, precipitating an amplification of tensions while resisting the resolution of a situation by means of analytical integration.

Indeed, what taking the dark presence of a generative problematic seriously makes present is that the metamorphoses it gives way to leave nothing untouched, such that there is no practice of problematisation that does not also involve a problematisation of our own practices, of the very means by which the problematic offers itself to thought while precipitating a mutation of the mode of thought which, in thinking it, is confronted with an otherwise of its own. Problematisation, in the end, in the beginning, is always *an art of metamorphosis*. And it is precisely the etho-poietic character of such metamorphosis that interests Isabelle Stengers (this issue) when, in her reading of Michel Foucault's notion of problematisation, she argues that at a time when runaway climate disorder and mass extinction endow the problem of life (on Earth) with new and unprecedented dimensions, to treat the art of

problematisation as a mere analytical exercise that would comb the archives so as to disclose a historical regime of truth carries a profound and potentially devastating danger. The danger, that is, of preventing us from cultivating this art's most demanding and transformative potential, that of engendering a form of experimentation that implicates ourselves in our present, inventing ways of making sense in common otherwise so as to put the present itself to the test of an ongoing problematisation of the 'very ontology of ourselves' (Foucault, 1984: 46).

Problems go all the way down indeed, but only and at the same time as their ripples percolate all the way up, oozing through the crannies of the world, jolting thought into being, and precipitating metamorphic processes all the way through the interstices of the Earth. And so it turns out that, far from the Herculean image that treated it as purely cognitive, methodological or epistemological, 'the problematic is a state of the world, a dimension of the system, and even its horizon or its home: it designates precisely the objectivity of Ideas, the reality of the virtual' (Deleuze, 1994a: 280). This proposition might just perfectly capture the reason why Gilles Deleuze, for whom philosophy became the art of inventing concepts which are 'connected to problems without which they would have no meaning' (Deleuze and Guattari, 1994: 16), has become a central figure in the attempt to give to the dark presence of the problematic the power to make us think, to engender in our own practices an ongoing experimentation with *what* thinking, living, and being might involve. Of course, Deleuze was deeply influenced by many of the aforementioned authors, incorporating many important elements of their own reflections. And while less frequently mentioned, his conceptualisation of the problematic seems to have taken much inspiration from Etienne Souriau (2015).⁸ Souriau, of course, cannot be said to have developed an explicit conceptualisation of the problematic. Yet his importance is paramount in that, for him, every act of creation constitutes a theatre of intensification of existence, wherein the creator becomes prey of a 'questioning situation' that makes a claim on them and puts them to work; and where the work consists, at one and the same time, in the engendering and undergoing of a metamorphic process in which the existence of work-to-be-made is gradually intensified, just as the creator itself becomes a creature in the making, 'the sketch of a better, more beautiful, more grand, more intense, and more accomplished being, which, however, is itself Being to-be-realized, and is itself responsible for that realization' (Souriau, 2015: 220).

But what distinguishes Deleuze's (1994a: 140) own version is precisely his gesture of granting to the problematic the character of an insistent, generative virtuality, which is neither recognisable nor representable, but which is *sensed* and as such 'moves the soul, "perplexes" it – in other words, forces it to pose a problem'. Which is why, when Deleuze writes that the problematic corresponds to the objectivity of Ideas – or indeed

that they *are* Ideas – it is not because it is merely cognitive or ideational, but because Ideas are real, even when they may not be actual. In other words, it is because

[s]omething in the world forces us to think. This something is an object not of recognition but of a fundamental *encounter*. What is encountered may be Socrates, a temple or a demon. It may be grasped in a range of affective tones: wonder, love, hatred, suffering. In whichever tone, its primary characteristic is that it can only be sensed. (1994a: 139)

It is this object of an encounter, this sensible something *in the world*, which is the genesis – rather than the object – of both thinker and thought, forcing thought to invent a manner of *posing* problems through ‘acts of constitution and investment in their respective symbolic fields’ (1994a: 159). Indeed, it is *thanks* to the generativity of the problematic that an ‘I’ is born to think at all. But if the problematic can force thought to think it is not least because it itself does not belong to thought, for ‘Ideas no more than Problems do not exist only in our heads but occur here and there in the production of an actual historical world’ (1994a: 190). It is thus that, on occasion, a problematic can send shockwaves across a whole array of fields such as painting, music, philosophy, literature, and cinema, forcing each of them to resolve, on their own terms and in relation to their own needs, a problem which is common to other fields. Hence Maniglier’s (this issue) proposition, that Deleuze’s conception of the problematic gives way both to a very particular methodology of transdisciplinarity – articulated through the sharing of problems – and to a characterisation of all intellectual and creative work as fundamentally transdisciplinary. But there is more. For while the shock of the problematic can precipitate metamorphoses across a range of divergent faculties – of understanding, memory, imagination, language, conceptual thought, and so on – forcing them to go beyond what they were previously capable of, it is also, as we have seen, capable of running its tremors through multiple dimensions of being: forcing life to experiment with new forms and new configurations of organisms and their milieux, or transcending existing forms of sociality and sociability which can only be lived, assembled, ‘in the element of social upheaval (in other words, freedom, which is always hidden among the remains of an old order and the first fruits of a new)’ (Deleuze, 1994a: 193).

Indeed, to affirm that problems do not exist in our heads but *occur* in the historical production of an actual world, that they are genetic forces for worlds in the making, is to make present that the sensible encounter happens not in or with thought but with an outside thoroughly populated by *differences and events*. That it is an encounter with the insistence of an otherwise which creates the conditions in which the problematic

may be posed *as* a problem but which never establishes how those who inherit it, those who will become prey to the indeterminate future it generates, will come to determine the problem as such, to invent a manner of posing it well, to develop it according to their own means. This is why Deleuze (1994b: 64) would say that the ‘mode of the event is the problematic. One must not say that there are problematic events, but that events bear exclusively upon problems and define their conditions. [...] The event by itself is problematic and problematizing.’ The event is problematic because it introduces an opening, a difference between a before and an after, yet it does not determine *what* that difference will be to the futures it engenders. And it is problematising, because while it demands a response, while the problematic itself seeks its own intensification, its incarnation in a specific formulation of a problem and its attendant solutions,

[f]ar from disappearing in this overlay, however, it insists and persists in these solutions. [...] The problem is at once both transcendent and immanent in relation to its solutions. Transcendent, because it consists in a system of ideal liaisons or differential relations between genetic elements. Immanent, because these liaisons or relations are incarnated in the actual relations which do not resemble them and are defined by the field of solution. (1994a: 163)

In other words, every realisation, every actualisation of a problematic in a specific problem and its attendant solutions, is only ever partial and unfinished; it is only ever a sketch of another problem to be posed, of another world to be made. Which is why, if a solution is only ever as good as the manner in which a problem is posed, it is also the case that the best that any solution can do is not to contain or exhaust but to *develop* a problem (Fraser, 2010). Hence the proposition that the problematic is always, at one and the same time, the *horizon* and the *home* of the world. Insisting on the edges of the present as events that mark a difference and demand the invention of a response, the problematic constitutes a horizon because, as Craig Lundy (this issue) argues, problems are always untimely: they transcend the present and call for a time to come, forcing those who are forced to heed the call to work counter to their past, on their present, for a future to come, for a time that will itself need to be engendered by the invention of a new people, and a new Earth. But the problematic is also the *home* of the world because, as Lundy notes, the untimeliness of the problematic is counter to any messianism and to any image of progress: that new time, new people, and new Earth are both always coming and will never have come.

There is an after to every ending, and what the problematic engenders, in the end, in the beginning, is not the image of a world to come but the

ongoing and unfinished, *experimental metamorphosis of one and many worlds without image*.

Once it is a question of determining the problem or Idea as such, [...] the question ‘What is X?’ Gives way to other questions, otherwise powerful and efficacious, otherwise imperative: ‘How much, how and in what cases?’ [...] These questions are those of the accident, the event, the multiplicity – of difference – as opposed to that of the essence, or other of the One, or those of the contrary and the contradictory. (Deleuze, 1994a: 188)

Indeed, it is here, finally, that, as Martin Savransky’s (this issue) article makes perceptible, we realise that the intercontinental threads and connections have never ceased resonating. For those are just the kinds of questions that correspond to the pragmatic metamorphosis to which William James would submit the perennial (false?) metaphysical problem of the one and the many. If Deleuze would suggest that problems or ‘Ideas are complexes of coexistence’, Savransky demonstrates that James’s pluralism is unlike the various liberal forms of pluralism that have followed it, which have only ever treated differences as so many obstacles to be overcome, which have always dreamt of a good common world in which the problem of difference would be resolved. With James, the pluralistic problematic acquires a radically political and cosmological sense, for his pluralism is above all an art of immanence, of staying with differences and events through an ongoing and unfinished dynamic of hindrance and experiment that goes all the way through. Indeed, because for James it is *thanks* to difference that life is redeemed from its insignificance, his characterisation of a pluriverse is not that of a *solution* to the problem of difference. Instead, it is the cosmological name for a radically different world to the one that the Herculean image of problems had presented us with. That is, a thoroughly *problematic universe*: a world that is both one and many, at all times made and remade by a profusion of differences, events, relations, novelties and potentialities, ‘full of partial stories that run parallel to one another, beginning and ending at odd times. They mutually interlace and interfere at points, but we cannot unify them completely in our minds’ (James, 1975: 71).

In their problematic togetherness, then, the articles gathered in this special issue themselves seek to create an opening, to sound a call. If ‘those who do not renew the image of thought are’, to borrow Deleuze and Guattari’s (1994: 51) words, ‘functionaries who, enjoying a ready-made thought, are not even conscious of the problem and are unaware even of the efforts of those they claim to take as their models’, the articles of this special issue sound a call for modes of social, ecological and political thought that would seek participation in the posing of problems themselves. A call for consenting to the imperative and the adventure of

giving to the dark presence of the problematic the power to transform their modes of thinking, to renew the image of thought, so as to precipitate, in turn, a metamorphosis of our modes of knowing, of living, of being, of our manner of inhabiting the Earth. As ever, the call demands a response, but it will be up to a people to come, to those who might one day find themselves thinking in its hold, to invent their own means of posing the problem. It will be up to them to determine, according to the manner in which their problems are posed, what the response shall be.

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Notes

1. It hopefully goes without saying that the sources and connections traced and discussed in these pages, or indeed across the special issue, in no way exhaust the multiplicity of traditions and efforts to problematise the problematic, to think it otherwise. Some famous cases otherwise not here addressed would include Karl Popper's (1979) evolutionary approach to life as generalised problem-solving, Michel Meyer's (1995) philosophical problematology, as well as Albert Lautman's (2011) dialectics of mathematical problems, to name but a few. The aim, both here and in the articles that compose the special issue, is not so much to engage in an exegetical exercise, retracing the histories of philosophical modes of problematisation for their own sake, but precisely to extract, from within and between some of these traditions, elements capable of reactivating the problematic so as to reclaim and relay one and many arts of problematisation.
2. Elie During (2004) has argued, with specific relation to the work of Henri Bergson, that it is precisely by attending to the question of the problematic that otherwise settled distinctions in the history of 20th-century French philosophy between a 'philosophy of the concept' (that would roughly correspond to what is also known as the French epistemological tradition going from the work of Gaston Bachelard and Jean Cavaillès, through Alexandre Koyré and Georges Canguilhem, to Michel Foucault) and a 'philosophy of experience' (associated with thinkers such as Maurice Merleau-Ponty and Jean Paul Sartre), are troubled and upended, forcing us to pose the problem of the history of philosophy anew.
3. For an exploration of the anti-positivist conception of problems in the French philosophical tradition see During (2004) and Bowden (2018).
4. Or as Deleuze (1988: 16) said in relation to Bergson, 'it is the solution that counts, but the problem always has the solution it deserves, in terms of the way in which it is stated (i.e. the conditions under which it is determined as a problem), and of the means and terms at our disposal for stating it.'
5. As Canguilhem (2008: xviii) would ask, 'Could man make a nest better than a bird, a web better than a spider?'
6. For detailed examinations of the role of problems in Simondon's theory of individuation see the essays by Muriel Combes (2002) and Daniela Voss (2018).

7. Simondon's (2005: 32–3) paradigmatic example of physical individuation is that of the genesis of crystals in supersaturated solutions, where the smallest seed, the smallest event, precipitates a process of transduction that sees the crystal develop in every direction within its aqueous solution, such that 'each molecular layer already constituted serves as a structuring base for the layer in the process of forming'.
8. Of course, the sources of influence in Deleuze's (1994a: 168, 170) own conceptualisation of the problematic far exceed these, including among others Kant, whom he credits with having discovered the problematic nature of ideas, as well as the writings of Albert Lautman, Salomon Maimon, and 'the old so-called barbaric or pre-scientific interpretation of the differential calculus'.

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