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Modes of Mattering: Barad, Whitehead, and Societies

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Abstract

What does a commitment to relationality require of practices of knowledge- and world-making? By providing a constructive criticism of Karen Barad's general assertion that 'relata do not preexist relations', in this paper I explore the ethical and methodological implications and demands of relational forms of thought and knowledge in relation to enduring creatures, or what Alfred North Whitehead calls 'societies'. I argue that instead of treating relationality as a matter of general principles and assertions, we should approach it technically and carefully, as a question to which each practice has to find its own mode of response, for which each practice has to learn how to become responsible. In other words, this involves attending not only to different, situated processes of mattering, but to the *modes of mattering* through which different societies come into existence.

[BLOCK QUOTE] "*Invent some manner of realizing your own ideals which will also satisfy alien demands – that and that only is the path to peace!*" William James (205)

Introduction: By what are we obligated?

Wandering seemingly aimlessly through the streets of Paris, Oliveira, the main character of Julio Cortázar's *Hopscotch* (1966), suddenly comes across a crowd gathered around what looks like a traffic accident. "OPINION had it", the narrator reports:

[BLOCKQUOTE] that the old man had slipped, that the car had run the red light, that the old man had tried to commit suicide, that the things were getting worse than ever in Paris, that traffic was terrible, that it was not the old man's fault, that it was the old man's fault, that the brakes on the car were not working right, that the old man had been frightfully careless, that living was getting more expensive every day, that there were too many foreigners in Paris who didn't understand the traffic laws and were taking work away from the Frenchmen. (97) [END BLOCKQUOTE]

Even though the old man "didn't seem to be hurt too badly", a moment later an ambulance arrived and the man was put on a stretcher. The driver of the car kept gesticulating and explaining his version of the accident to the police and the onlookers. In mobilizing physics, engineering, law, environmentalism, psychology, economics, and racism, a version, or rather, multiple versions of the event were being constructed. The old man had been put on a stretcher. Nobody seemed to care for what he had to say.

The circle of witnesses dissolved after "[a] few drops of rain began to fall" (98) and Oliveira resumed his wandering. This encounter, however, forced him to think:

[BLOCKQUOTE] "A complete lack of communication", Oliveira thought. "It's not so much that we're alone, that's a well-known fact that any fool can plainly see. Being alone is basically being alone on a certain level in which other lonelines could communicate with us if that were the case. But bring on a conflict, an accident in the street or a declaration of war, provoke the brutal crossing of different levels, and a man who is perhaps an outstanding Sanskrit scholar or a quantum physicist becomes a *pépère* [grandpa] in the eyes of the stretcher-bearer who arrives on the scene. Edgar Allan Poe on a stretcher, Verlaine in the hands of a sawbones, Nerval and Artaud facing psychiatrists. What could that Italian Galen have known about Keats as he bled him and helped him die of hunger? If men like them are silent, as is most likely, the others will triumph blindly, without evil intent, of course, without knowing that the consumptive over there, that injured man lying naked on that bed, are doubly alone, surrounded by beings who move about as if behind a glass, from a different place in time..." (98) [END BLOCKQUOTE]

Knowledge, ethics, relations, and worldly encounters are all present in this problematic scene that troubles Oliveira while he continues wandering in the rain. As he wanders, and wonders about the event, the face of the old man, “which could almost be described as placid, perplexed maybe” (98), presents itself as an obligation that Oliveira feels compelled to respond to, if one wants to *know* what happened to him, and what in turn has happened to us, in a way that takes seriously the patterns of relevance that compose the situation and does not thereby contribute to the production of a double loneliness that only forces the world to disjoin itself, locating us, onlookers, as if behind a glass (Savransky, *Adventure*). The scene in this case concerns humans – and not only humans, but also other non-human bodies, cars, streets, knowledge, love, hate – but the concern could never be read as exclusively humanist: what Oliveira wonders about is precisely the role of human encounters in an “ethics of worlding” (Barad, *Meeting* 392).

I find that these meditations resonate profoundly with what I take to be one of the most laudable and promising aspects of Karen Barad's work, namely, her commitment to a posthumanist ethico-onto-epistemology that refuses to separate questions of knowing from questions of being, and therefore makes perceptible the way in which such entanglements always already situate us in the realm of ethics, and interrogates our ‘response-ability’ (Haraway 2008) for “the differential patterns of mattering of the world of which we are a part” (Barad, *Meeting* 394).

In this paper, thus, my aim is to attempt to think with Barad, Cortázar, Alfred North Whitehead, and others about what an ethics of worlding may demand of us whenever knowledge-making, which is also to say, world-making, is at stake (Savransky, “Worlds in the Making”), and more specifically, when those processes of knowing can be said to concern, as in Oliveira's scene, encounters with humans as well as other entities endowed with higher levels of organizational complexity (Whitehead, *Modes of Thought*). To be sure, this is not to be confounded with a nostalgic cry for a form of rejuvenated humanism. In contrast, I regard such concern as emerging precisely out of what we may call a ‘posthumanist’ spirit, whenever that term stands not for a fascination with non-

humans (as if they were the new anthropological – perhaps post-anthropological? – other), but for a non-bifurcated cosmology that forces us to rethink the very relationship between the *Anthropos* and the *Oikos* in such a way that things are placed “all around and us with them like parasites” (Serres 33).

As I will argue below, the challenge of engaging in an ethics of worlding, which is to say, of becoming able to respond to this buzzing and dynamic world whereby humans and non-humans are already meshed together in processes of inter- and intra-acting, as Barad would call them, requires both that we account for their entanglements and fuzzy boundaries *and* that we become able to deal with the question of how the actual world obligates us, of what its many existents, in their own different ways, demand of us as partakers in their – and our – worldly becomings. To do this, I will argue that while we must resist bifurcating worldly beings into clear-cut ontological distinctions and of conceiving of things as enjoying an isolated existence, we nevertheless need to be able to account for their differential, specific, and relatively separate *modes* of existence, and thus, for the heterogeneous obligations that these pose as ‘stubborn facts’ in the many encounters in which we all enter and through which they, us, and of course, the world, are brought into forms of problematic (co-)existence (Whitehead, *Process and Reality*). This, I will show, might allow us to conceive of knowledge-practices not just as ‘performative’ but as risky, ethical processes of mattering.

From Quanta to Societies: Intra-action, Endurance and the Danger of Relationalism

Let us now go back, like little detectives, to the scene of the accident. As the narrator presents it, we enter the phenomenal scene with Oliveira as elements in the midst of its own intra-active process of materialization. As Barad argues in her *Meeting the Universe Halfway*:

[BLOCKQUOTE] the primary ontological unit is not independent objects with inherent boundaries and properties but rather *phenomena*. [...] phenomena do not merely mark the epistemological inseparability of observer and observed, or the results of measurements;

rather, *phenomena are the ontological inseparability/entanglement of intra-acting "agencies"*. (139; emphasis in original) [END BLOCKQUOTE]

According to what we may call, with Barad, an agential-realist reading of this scene, objects, humans, and material signs, the car, the old man, and the onlookers, are being intra-actively enacted through the different 'agential cuts' performed by the various cultural and medical material-semiotic practices involved and by the varying opinions and versions such processes afford. Was it *really* an accident? Or a suicide attempt? Perhaps, an act of recklessness by an ignorant 'foreigner'? Who's responsible for what? Boundaries remain provisionally indeterminate, as does knowledge. Suddenly, a few drops of rain diffract all the not-yet-fully-constituted elements in novel, unexpected ways. Our own co-witness, Oliveira, sets off into a walking meditation that induces further diffractions that summon Poe, Verlaine, Keats, Artaud, and others to bear themselves witness to and further intra-act with the 'phenomenon', thereby prompting a meditation on the perils of communication and, as I have argued above, on the relevance of obligations.

However, something haunts the becoming of the phenomenon of which Oliveira but also we, as readers, are a part; something that puts the very dictum that "relata do not preexist relations" (Barad, "Posthumanist Performativity" 815; *Meeting* 140) at risk. Namely, what haunts the becoming of the phenomenon is the fact that the process seems to 'triumph blindly', ignoring the old man's experience altogether. Indeed, by reducing him to a *pépère*, his stubborn existence dims to the point of becoming a *mere effect* of the many versions that enact him in multiple ways. This is not to say that, 'actually', the old man *before* the phenomenon and the one *emerging from it* could or should be conceived of as identical, that is, as capable of fully preserving 'him-self' in a way that is unaffected by the phenomenon. Surely he is transformed through it, as are the car, the onlookers, the traffic; as are Oliveira, Cortázar, and as are we. What Cortázar's account makes present, however, is that the various storied patterns through which the phenomenon is accounted for fail to inherit the very experience of the old man as a constraint on the becoming of the phenomenon itself.

But how could the old man's experience, which cannot be dissociated from his past, be of any relevance to the phenomenon if the old man as one of the many *relata* is, according to Barad's proposition, an emergent element of the phenomenon itself? Indeed, if *relata* do not preexist their relations, as Barad has put it, if they come into existence through their relations, should we not conclude in this case that the old man is indeed nothing other than a *pépère*? Should we not affirm that the old man *only is* in and through these relations that constitute him as a *pépère* such that he cannot exist, *sensu stricto*, before, after, or aside from this situation? My aim here is to attempt to provide a possible way of resisting such a conclusion and to risk taking Oliveira's wandering concerns seriously, by encountering the old man as a speculative presence that forces us to think.

In this sense, Levi Bryant has rightly pointed out the problematic character of Barad's thesis that *relata* do not preexist relations, for it forces us to affirm that relations always precede entities or 'relata' such that the latter not only emerge through them but can have no subsistence or being apart from those relations through which they emerge. To be sure, the point is not to discuss whether there is such a thing as 'the old man' existing *independently* of *any* relations – of course there isn't, as his very name suggests – and neither is it to pose the question of whether relations matter – of course they do.

The question, rather, is *how*, in the configuring of a specific situation, both relations and *relata* come to matter and affect each other. That is, whether there is any way in which an entity might be said to enter into new relations – and hence to have a relative pre-existence with respect to them – whether it might be capable of being affected by such novel encounters without becoming *an entirely other entity*; whether such an entity can, in Whitehead's (*Adventures of Ideas*) words, *endure*. If this latter question is answered in the affirmative, that is, if we are able to affirm that an entity, human or not, may be capable of enduring and thus of partaking in multiple phenomena, another question makes itself felt, one which, as I will argue, has major ethical importance. Namely, the question of the extent to which an enduring entity may be capable of posing its own obligations, that is, of constraining – in the sense of both limiting and enabling (e.g.

Gomart) – the manner in which a situation – such as it may be instituted by a research situation, for example – might inherit it; its capacity to institute itself as a demand for a situation to “tak[e] responsibility for that which [it] inherit[s]” and for how it does so (Barad, “Quantum Entanglements” 264).

I very much agree with Bryant that the consequences of the proposition that the intra-active processes of relating bring their own relata into being might be rather “catastroph[ic] for [...] empirical investigation, and concrete practice”. But from my point of view, no less problematic is the postulation of a ‘minimal ontological autonomy’, a notion of a thing-in-itself, existing in isolation, that reintroduces a conception of the “undifferentiated endurance” (Whitehead, *Process and Reality* 77) of independent substances to which relations merely ‘happen’.

Indeed, the consequences of the latter proposition involve a revival of the same bifurcated ontology of primary and secondary qualities that “dominates language, and haunts both science and philosophy”, that has “formed the basis of scientific materialism” (Whitehead, *Process and Reality* 78), and which we have sought out to resist.

In contrast, I would argue that what we may call ‘the danger of relationalism’, that is, the danger of negating the historical – hence relative and contingent – preexistence of entities to specific relational entanglements, does not necessarily reveal the inadequacy of Barad’s proposal of relational thinking as such. We should not fall into the paradoxical trap of placing the concept of relationality at arm’s length, but we do need to treat the concept carefully, resisting levelling it to an all-too-general proposition to which nothing can resist. Relationality, I want to suggest, needs to be treated technically, that is, with the care that one devotes to the development of a technique. A care that requires that we pay attention to the local, situated, and specific manners in which concepts, as technical tools, may indeed be productive, while refraining from extending them into all-encompassing ‘worldviews’. As Whitehead has taught us, no mode of thinking can be dissociated from the mode of existence of the entities to which it relates (Whitehead *Science and the Modern World, Process and Reality*; see also Stengers, “Beyond Conversation”,

“Constructivist Reading”, *Thinking with Whitehead*). Thus, the task is that of sensing the limits of the domain for which such a mode is capable of becoming a lure for feeling, of pointing towards what matters, and the domains for which, if it is extended unlimitedly, a concept may engender the danger of making us prisoners of the false problems it creates.

I understand that Barad’s ‘battle’, the problem that seems to traverse and animate her work, is precisely that of reclaiming, against the pervading character of Cartesian assumptions of a discrete subject/object split and the “metaphysics of individualism” (*Meeting* 393) that postulates a world populated by entities in isolation from each other, the dynamic relationalities and entanglements through which we and the world come into existence. And, as many of us writing today and engaging with this and other works, I seek to partake in that battle. But, as I hope to show, the particular requirements of the practices I am concerned with prompt me to wonder about and care for *how* such a battle might be carried forward in productive ways.

In other words, while Barad’s proposition, which she inherits from the quantum physics of Niels Bohr, may be relevant to the domain of quantum phenomena that both of them discuss, I worry that making ‘intra-action’ a *mot d’ordre* that affirms that “the world is intra-activity in its differential mattering” (Barad, *Meeting* 141) risks becoming counterproductive. My argument is thus not that the notion of ‘intra-action’ is *per se* ill-conceived, but that extending the scope of ‘intra-active’ processes to the point where they are made to account for the adventures of *any* enduring entity might entail rather detrimental epistemological, ontological, and ethical consequences. The result might not in the end lead to the creation of new contrasts, out of which new habits of attention emerge, but to the rehearsal of a habit of finding in the specific differences and obligations that enduring entities pose, the same relationalities and entanglements that constitute them, everywhere and always.

Surely, Barad recognizes this danger, and she claims that, in her work, “[e]ntanglements are not a name for the interconnectedness of all being as one, but rather specific material relations of the ongoing differentiating of the world” (“Quantum Entanglements” 265).

This claim is partially reassuring, but the reference to “the world” here remains somewhat disconcerting as its overarching generality stops us precisely from becoming sensitive to the specific contrasts introduced by those differentiating creatures that are a part of the world’s ongoing process. They are a part, that is, in the sense both of coming into existence out of the world’s creative advance, and of productively constraining the directions this process might take as it comes to terms with the stubborn fact of their existence. Thus, my sense is that to resist this danger we require words that may allow us to affirm, simultaneously, the relational processes by which the different creatures of this world come into existence as well as the radical *irreducibility* of the stubborn fact of their existence.

To be sure, this is not a return to the isolationist, discrete, individualist metaphysics that would hold that enduring entities such as rocks, plants, animals, or humans are ontologically distinct, and that in order to attend to differences, we should resort to a classical language of ‘types’ or ‘kinds’ of beings (cf. Hacking, “Making Up People”, *Social Construction*). Indeed, following Brian Henning, “if the last century’s revolutionary discoveries in quantum physics, chemistry, biology, physiology, and ecology have taught us anything, we must acknowledge that there are no absolute divisions in nature” (68). And obviously, neither is it a return to the dream of a reality that can be known – that *should* be known – independently of any practice, that is, of any relation.

What is at stake, I think, is that even though, as Barad argues, we should not confine the potential lessons of Bohr’s quantum mechanics to some ‘microscopic’ scale beyond which Newtonian (meta)physics may prevail unchallenged, we also should not be too quick to reduce the requirements of other practices to the lessons of supposedly “more fundamental issues of principle” (*Meeting* 110). We must honor Bohr’s lessons, but not as something that the entire world must comply with as a matter of principle. Rather, if an attention to relationality is such a lesson, we must take the risk of extending it, of *proposing* it, as a question to which each practice has to find its own mode of response, for which each practice has to learn how to become responsible.

In this way, I think that in order to resist the danger of what we may, for lack of a better term, call a ‘relational reductionism’, we need to find ways affirming relationality while foregrounding and exploring the intricate textures and forms of something Barad recognizes but which, I fear, is in danger of being overshadowed by her radically relational proposition, namely, what she calls “agential separability” (*Meeting* 176) – the ways in which the world creates enduring patterns of difference by dynamically enfolding and unfolding itself – differences that matter, and that do so enormously, not least for the possibilities of worldly refoldings that such enduring forms dynamically contribute to configuring. To put it differently, I want to affirm relationality while experimenting with what Gilles Deleuze would associate with a *mannerism*. That is, an account that does not introduce ontological gaps in the fabric of the universe nor reduce enduring entities to the relations that constitute them, but instead seeks to become sensitive to the different *modes* of mattering of the many creatures that populate, and hence compose, the world.

It is with this aim in mind that I want to turn to Whitehead’s contrast between what he calls an “actual entity” or “actual occasion” – i.e the basic unity of reality – and his account of any enduring entity as already constituting a “society of actual occasions” (*Process and Reality, Adventures of Ideas*). Because it is in this contrast that I see the possibility of multiplying the planes of reality, the practices and modes of existence that compose it, and of posing the question of the specific ways in these may come to invent responses to the question of relationality.

Not unlike quanta in Bohr and Barad, for Whitehead all actual occasions *are* their relations,¹ that is, they come into existence by internally prehending the actual world as a datum into their own self-realisation so that “every actual entity *is* present in other actual entities” (Whitehead, *Process and Reality* 50; emphasis in original). Thus, like quantum leaps (Barad, “Quantum Entanglements”), the becoming of an actual entity is not a process that can be characterized by temporal continuity – there is a “becoming of continuity but no continuity of becoming” (Whitehead, *Process and Reality* 35). Thus, an actual occasion “has no [...] history. It never changes. It only becomes and perishes.”

(Whitehead, *Adventures of Ideas* 204). It occasions reality, and as such it makes time rather than being contained by it.

Yet actual entities are not in any sense what we may refer to as the 'empirical objects' of most specialized sciences, certainly not those of the social sciences, insofar as the latter may be concerned with entities endowed with higher levels of organizational complexity and to the extent that the experience of the old man may be included among their matters of concern. Surely, a minimal requirement of the social sciences is that the entities to whom they pose questions endure. And interestingly, for Whitehead, enduring entities are always *societies* of actual entities. As he puts it, "[a]n ordinary physical object, which has temporal endurance, is a society" (*Process and Reality* 35). Thus, societies are specific modes of grouping of actual entities under some kind of 'social order' – *how* such a manner of grouping is formed constitutes *what* a society is.

The contrast between an actual entity and a society is important, moreover, because while the latter is to be conceived of as a grouping of actual entities, it cannot be reduced to a secondary order, to a mere epiphenomenon of some supposedly primary, 'really real' process in which actual entities are involved. To be clear, societies are not grouped together just because they happen to have common characteristics, and their contrast with actual entities is not simply a matter of scale, or of mere quantity, but of organizational complexity – of modes of existence. According to Whitehead, a society "is its own reason", which is to say that its members are related not merely by similarity but "by reason of genetic derivation from other members of that same society" (*Adventures of Ideas* 203-204). They are metaphysical existents. Crucially, however, unlike an actual entity, a society, formed through the mode of such genetic derivation, "enjoys a history expressing its changing reactions to changing circumstances" (*Adventures of Ideas* 204; my emphasis):

[BLOCKQUOTE] [i]t is evident from [the] description of the notion of a 'Society', as here employed, that a set of mutually contemporary occasions cannot form a complete society. For the genetic condition cannot be satisfied by such a set of contemporaries. Of

course, a set of contemporaries may belong to a society. But the society, as such, must involve antecedents and subsequents. In other words, a society must exhibit the peculiar quality of endurance. The real actual things that endure are all societies. They are not actual occasions. (Whitehead, *Adventures of Ideas* 204) [END BLOCKQUOTE]

Furthermore, because what a society is, is the manner in which it is formed, societies can vary in terms of the *mode* of social order they enjoy. What distinguishes the mode of existence of a society from another is not an ontological gap that would separate the many beings of this world into discrete kinds or types thereby bifurcating the world itself. In contrast, different modes of existence emerge from the different modes of social organization in such a way that the many modes build upon and “shade off into each other”:

[BLOCKQUOTE] [t]here is the animal life with its central direction of a society of cells, there is the vegetable life with its organized republic of cells, there is the cell life with its organized republic of molecules, there is the large-scale inorganic society of molecules with its passive acceptance of necessity derived from spatial relations, there is the infra-molecular activity which has lost all trace of the passivity of inorganic nature on a larger scale. (Whitehead, *Modes of Thought* 157) [END BLOCKQUOTE]

In other words, if “‘Humans’ are emergent phenomena like all other physical systems” (Barad, *Meeting* 338), they are not for that reason *just* like all other physical systems. Needless to say, my point here is not to reserve a special place for humans in the fabric of the world, but to introduce words that may allow us to pay attention to *how* the differences between humans, dogs, orchids, wasps, rocks, atoms, and so forth *matter* for how we come to think about relationality, and indeed, for how we come to inhabit relations that in turn inhabit us.

In this way, if the old man can be said to be a society of actual entities that is capable of having adventures, that is, of having its members connected by a nexus that *is* indeed continuous in both space and time (Whitehead, *Adventures of Ideas* 202), then he cannot

be reduced to the intra-active relationalities through which it may nevertheless be composed. Insofar as he is transformed by his participation in it, the phenomenon is also affected by the incorporation of the old man's experience as a stubborn fact in its own becoming. As Whitehead puts it in his *Adventures of Ideas*:

[BLOCKQUOTE] it must be remembered that just as the relations modify the natures of the relata, so the relata modify the nature of the relation. The relationship is not a universal. It is a concrete fact with the same concreteness as the relata. (157) [END BLOCKQUOTE]

This, it seems to me, is the crux of the matter: that insofar as relations are as real as the different entities they bring into existence, they are not, *sensu stricto*, prior or primary with respect to the latter, but are as concrete as everything else, contributing, in specific and diverse manners, to the modes of mattering of societies, just as these configure the modes of mattering of relations. It's not just, then, that the world is relational, that relationality is original whereas societies are derivative, or that "[r]elations do not follow relata, but the other way around" (Barad, *Meeting* 136-37). Rather, to resist the danger of relational reductionism, I suggest we must come to terms with a world made, dynamically, of the shifting modes of mattering of societies-and-relations all the way down, all the way back. Paying close attention to those modes or manners, and to their dynamic natures, becomes, thus, the task of an ethics concerned not with the stasis implied in the all-too-general, abstract distinctions between good and evil, but with the fragile and dynamic problem of co-existence of the many modes of mattering that compose the world in its becoming.

It is such an attention that I see present in the scene with which I opened this article. Indeed, what concerns Oliveira is not just the exclusionary effect of a performative; he is not just asking for accountability to the particular ways in which the coming-into-existence of the phenomenon's components are enacted in this way and not another (Barad, *Meeting* 284). What prompts his meditations is the failure of a socio-material process to make the experience of the old man *matter*, that is, the failure to inherit his

experience not as what would or should single-handedly determine the becoming of the phenomenon and perform a once-and-for-all determinate cut, but as a stubborn fact that is to “be implicated in that [process] in one or other of many modes, [as] a conditioned indetermination” (Whitehead, *Process and Reality* 23).

Thus, if as Barad argues, “we are responsible for the world of which we are a part [...] because reality is sedimented out of particular practices that we have a role in shaping and through which we are shaped” (*Meeting* 390), the challenge of becoming responsible to the becoming of such a phenomenon is also that of affirming the adventure of the old man as a society capable of enduring. In turn, such affirmation demands that we pay due attention to the potential obligations that the old man himself may pose to the mode of mattering of the relations through which the situation is configured, of how his own mode of mattering and experiencing may constrain its possible practical materializations. Ultimately, each practice must invent a manner of responding to the modes of mattering with which it is involved in a way that allows for the crafting of new contrasts, that is, of novelty and new habits of attention. It is through this risky, inventive process of inheritance and creativity, I argue, that we may avoid producing a ‘double loneliness’ that disjoins the world and its many inhabitants and may instead contribute to assembling forms of problematic togetherness that show a ‘concern’ for the becoming of the world (see also Bell).

Oliveira’s meditations complexify our way of conceiving of and experiencing the challenge of an ethics of worlding. By demanding not only that one accounts for the particular worlds practices bring into being but also that one *pays attention* to the modes of mattering of the many experiences to which such practices must invent a way of responding, Oliveira’s ethical speculations establish the possibility of an ethics of worlding as a radically demanding challenge. A challenge that I, in turn, am interested in experimenting with in relation to certain scientific practices that may be said to engage and seek to account for experiences not unlike the old man’s. Thus, with Oliveira, I will argue that the speculative challenge that an ethics of worlding poses to such practices relates to the careful fabrication of “*delicate contacts, marvelous adjustments with the*

world” (Cortázar 99; my emphasis). As will be shown below, such delicate contacts and marvelous adjustments require that we affirm both entities and relations, for they “could not be attained from just one point; the outstretched hand ha[s] to find response in another hand stretched out from the beyond, from the other part.” (Cortázar 99; my emphasis).

Delicate Contacts, Marvelous Adjustments: Scientific Practices, Worldly Encounters and Modes of Mattering

If knowing can be characterized as “a specific engagement of the world where part of the world becomes intelligible to another part of the world” (Barad, *Meeting* 342), then we must attend to the mode of mattering of the entities that a process of knowing comes to inherit in different ways. Doing so, moreover, makes perceptible the extent to which the coming-into-existence of new and transformed beings and thus, of novel worldly configurations, cannot be legislated in advance, but should be regarded as an achievement. In turn, such achievements can never be dissociated from the obligations the existents encountered may pose – or fail to pose – to the practices with which they become entangled. Whenever what is at stake is a process of engaging with enduring entities in such a way that something called ‘knowledge’ may emerge as its aim, the process may create itself, but it does not create the entities with which it must learn to come to terms. In other words, because it is a question of a dynamic coming to terms and not just of a performativity that creates that which it purports to discover, *mattering always entails taking risks*. Thus, in order to entertain the challenge of an ethics of worlding, we need to attend to the specific manners of creating delicate contacts between the mode of mattering of an entity and the mode of invention of a practice, so that the obligations posed by the former may be inherited in a way that forces the practice to invent a way of becoming responsible for it.

In this sense, as Andrew Pickering, Hans-Jörg Rheinberger, and Isabelle Stengers (*Invention*) have argued in different ways, the event of an experimental achievement in the sciences of the laboratory does not belong, *pace* epistemologists, to a pre-established ‘right to know’ with which a scientist might approach her object, a guarantee provided by

the promises of method and rationality, and neither can such an achievement be explained (away) as a ‘mere construction’ that is either purely social and discursive, or material and technological. The coming-into-matter of an experimental fact or entity cannot be explained as a mere effect of the practices that make it present, but it too requires the careful production of delicate contacts and marvelous adjustments with the world brought about by the mutual negotiations and coming-to-terms between experimental practices and the obligations posed by experimental objects. Pickering successfully captures the process in what he has termed the “dance of agency”:

[BLOCKQUOTE] [t]he dance of agency, seen asymmetrically from the human end, thus takes the form of a dialectic of resistance and accommodation, where resistance denotes the failure to achieve an intended capture of agency [of an entity] in practice, and accommodation an active human strategy of response to resistance, which can include revisions to goals and intentions as well as to the material form of the machine in question and to the human frame of gestures and social relations that surround it. (22)
[END BLOCKQUOTE]

Indeed, the ‘dance of agency’ may be said to characterize the relationship between the mode of invention of experimental practices and the recalcitrant mode of existence of experimental objects. Unlike other scientific objects, as we shall see, the mode of existence of experimental objects renders them particularly capable of making their own obligations present, of resisting irrelevant questions that may be posed to them by the experimental apparatus, and thus, of “turn[ing] around the (im)precisions of our foresight and understanding” (Rheinberger 23). For this reason, whenever an experiment succeeds in bringing an entity into being, the latter is capable of coming to matter in a way “that affirms [its] independence with respect to the time frame of human knowledge” (Stengers, *Cosmopolitics* 21).

In other words, the mode of existence of certain experimental objects prevents them from going silent in relation to the way in which a practical process of knowing inherits them. However, when it comes to the question of how humans and other societies endowed

with higher organizational complexity are engaged through material-semiotic practices, the mode of relationality that characterizes an experimental practice cannot simply be extended by analogy. Rather, the relational proposition needs to be posed as a question to which practices of social inquiry must find their own way of responding.

For, as Oliveira notes in his meditations, unlike the recalcitrant nature of experimental entities the old man does go silent and, according to him, so have Poe, Verlaine, and other “men like them” (Cortázar 98). By contrast to experimental entities, those societies we can associate with the matters of concern of the social sciences – those that could be said, following Whitehead, to be “personal societies”² (*Adventures of Ideas* 205-206) – are generally not indifferent to the questions that are posed to them or the assumptions made *about* them. On the contrary, their mode of existence makes them capable of becoming interested in those questions, of being affected by them, of wondering what it is that the one posing the question may want from them, thus engaging in a way that actively incorporates such questions and assumptions (Stengers, *Invention* 146).

Indeed, if the entities with which the social sciences are concerned may be capable, in the name of Science, of accepting the questions that are posed to them to the point of remaining silent about the assumptions such questions make, then, crucially, the kind of delicate contacts and marvelous adjustments that are required cannot merely be regarded as an extension of the modalities of mattering that characterize the experimental sciences. To do so would be to disregard the specific mode of mattering of such societies and thus to fail to make their specific obligations matter in the ongoing process of becoming that constitutes an inquiry. Nevertheless, this is precisely what many habitual forms of modern social research involve, namely, a submission of the object to their own practical demands; to their own questions, assumptions, theories; to their own way of framing the problem, regardless of whether that framing succeeds in coming to terms with how those to whom the questions are posed matter (Despret; Savransky, “Recalcitrant Subjects”, *Adventure*).

My contention, is that from the point of view of an ethics of worlding, such habits are rather catastrophic. If what is at stake is a concern with how the obligations of the actual world are inherited by (social) scientific practices so that the onto-epistemic emergences and transformations they enact might contribute to the crafting of worldly forms of problematic togetherness; the modern habits of knowing of the social sciences whereby only one part of the world has the right to makes demands upon the other and expects the latter to submit to those demands, whereby only one part asks the questions and the other is expected to respond, entail rather disastrous consequences for the differential becoming of the world. For they fundamentally presuppose that scientific practices are obligated by nothing – that they can triumph blindly – and that, on the contrary, they are the ones with the right to obligate.

In contrast, what the attention to the specific modes of mattering of personal societies makes felt, what it might be capable of teaching us, is that the success of a social scientific invention constitutes a particularly fragile achievement, and that the challenge of achieving a coming-to-terms, a stretching of a hand in a manner that may be able to “find response in another hand stretched out from the beyond, from the other part” (Cortázar 99), constitutes the very risk such practices have to face. Indeed, the task is not that of knowing in advance how to pose the right questions, but of devising a coming-to-terms with the objects that a practice encounters such that they may *object* to the assumptions that are made about them, such that they may transform the ways in which a practice addresses them, and reshape, from their own point of view, the questions that are posed to them, so that the specificity of their mode of mattering may be felt.³ It is a question of immanently tuning semiotic-material practices to encounters with *recalcitrant* subjects that may themselves become vectors of risk (Savransky, “Recalcitrant Subjects”).

In light of this, we may ask, how should we come to terms with, and become responsive to, the scene witnessed by Oliveira without defacing the old man’s experience, without forcing him to become silent, to submit to the assumptions that are made about him. How may we partake in a process of knowing which in its own mode of becoming may include

a reference to the mode of mattering of those it has to invent a way of inheriting? To be sure, as the questions themselves suggest, such interrogations can hardly be addressed in the abstract mode of a once-for-all response that would attempt to settle the concern of a worldly ethics by guaranteeing, procedurally, what the 'right thing to do' might be. After all, as Barad argues: "[e]thics is [...] not about [the] right response to a radically exterior/ized other, but about responsibility and accountability for the lively relationalities of becoming of which we are a part" (*Meeting* 393). In contrast to the usual normative ethical guidelines, an ethics of worlding requires an immanent, practical, and situated mode of relating. As James reminds us, "the *highest* ethical life – however few may be called to bear its burdens – consists at all times in the breaking of rules which have grown too narrow for the actual case" (209). For this reason, I believe, such ethical concerns might allow us to reconsider the question and relevance of immanent and risky forms of relationality beyond the limitations of what I have associated with the 'danger of relationalism'.

Indeed, as I have argued, whenever societies of actual entities are concerned, the assertion that "relata do not preexist their relations" becomes dangerous, as it poses the danger of failing to recognize that, whenever it is a matter of coming to terms with another, the specific mode of mattering of an entity constitutes a constraint for the kind of relations we may find ourselves in. Societies have adventures and are therefore not only capable of being affected by the relations into which they enter, but also of affecting the nature of those relations. Thus, the ethico-onto-epistemological concerns that all processes of mattering raise involve the *risk* of having to invent a manner of attending to the obligations that the many relating entities – human and non-human – may pose to the on-going process of becoming. It concerns the risk of producing delicate contacts and marvelous adjustments with societies as they come to matter for a particular process of worldly reconfiguration.

The endurance of societies does not at all imply that relationality is irrelevant, or that we should turn our attentions away from the very entanglements that constitute a society's adventures – quite the opposite is the case. As Mariam Motamedi-Fraser has argued, in

relation to attending to social research methods as specific apparatuses for the ethico-onto-epistemological *becoming with* of the social scientist, the materials with which she works, the objects of research, and the milieu that sustains the encounter and which the latter in turn affects, the task is to become

[BLOCKQUOTE] singularly cognizant of, and alive to, the ontological, epistemological and ethical implications of different uses of different methodologies and methods and the role they play in enabling alternative, imaginative, patterns of relationality – patterns, that is, of experience. Herein lies the usefulness [...] of the concept of relationality in research: it necessarily invites questions about the *kinds* of relations we are in or, indeed, the kinds of relations we *could* be in, and what specific arrangements of relations do or do not allow. (102) [END BLOCKQUOTE]

Thus, attending to the *mannerism* of societies and relationalities requires not just an affirmation of relationality as what may enact the on-going transformation of reality, but also a demanding, yet productive, care for the textures and patterns of the many modalities of relating that may become available in the coming-to-terms that characterizes an encounter; a care for the manner in which specific beings, practices, methodologies, and relations come to negotiate the nature of their multiply constrained entanglements, their *modes of co-existence*, and the consequences that such negotiations may involve for the progressive differentiation of the world.

Conclusion: Caring for What Matters

By speculatively inhabiting the scene witnessed by Oliveira while wandering through the streets of Paris, in this article I have attempted to think, among others, with Barad, Whitehead, and Oliveira himself about the sort of challenge that an ethics of worlding might involve for any process of becoming that may be concerned with what, in accordance with Whitehead, I have referred to as a ‘society’. After discussing the limitations of what I have here termed ‘the danger of relationalism’, I have argued that whenever societies are at stake, an ethics of worlding has to include, as an immanent

concern, the question of how practices inherit the specific modes of mattering of the entities with which they are entangled, in such a way that the obligations that the societies of such a world may be felt. The raising of this question, which ultimately involves the careful crafting of delicate contacts and marvelous adjustments with the world, constitutes the very risk that practical processes of knowing have to face if they are to avoid triumphing blindly and enacting a 'double loneliness' that disjoins the world.

Moreover, I have argued that what defines a society is not just the fact of the grouping of the many actual entities of which it consists, but the dynamic *mode* of their (be)coming together. Thus, attending to societies of actual entities necessarily invites a concern for their various modes of mattering. Such a concern becomes crucial when thinking about scientific practices, for it is precisely in the encounter between the specific mode of existence of a society and the specific mode of coming-to-terms of a practice that the risk of responsibility emerges. Thus, far from taking our attention and imagination away from the entangled relationalities through which various worldly entities, human and non-human, emerge, become and enter into new entanglements, the mannerism of thought that I have proposed invites us to pay due attention to the *kind* of relations we are in, and the possibilities certain patterns of relationality may enable, or, instead, inhibit. The challenge of engaging knowledge-practices through an ethics of worlding might perhaps be conceived not only as a matter of accountability for what emerges from an indeterminate process of materialization but also, and crucially, as the risk of becoming sensitive to the modes in which our practices of knowing, with their specific patterns of relationality, may come to terms with what Whitehead expressed as "our primary experience" of the world: "Have a care, here is something that matters!" (*Modes of Thought* 116).

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End Notes:

¹ In fact, the historical and philosophical connections between the early developments in quantum physics and Whitehead's philosophy of the organism are multiple and well documented (see for instance Epperson).

² A personal society is a society the realized nexus of which is "purely temporal and continuous" (Whitehead, *Adventures of Ideas* 205). Thus, while a human may, in a sense, be a 'person', we should resist the temptation to associate personality with humanity. As Whitehead cogently puts it: "Each living body is a society, which is not [necessarily] personal. But most of the animals, including all the vertebrates, seem to have their social system dominated by a subordinate society which is 'personal'. This subordinate society is of the same type as 'man' [...] Thus in a sense a dog is a 'person', and in another sense he is a non-personal society." (205-206). For interesting discussions on encounters with non-human animals see for instance Haraway, and for an examination of living, yet possibly non-personal societies, see Hayward.

³ To be sure, an invitation to object shall not be confused with a mere call for more democratic and participatory forms of knowledge-production. As I hope to have shown, what is at stake is not whether scientific objects are engaged in the process of becoming that knowledge-practices contribute to enacting, but the *manner* of their engagement. An invitation to 'participate' in the name of Science, for example, does not guarantee a worldly encounter, and will not prevent the world from becoming disjunct.