



PROVOCATION

To Live in Our Damaged Worlds

A Proposal for Ecological Justice through Inquiry

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Abstract The question of how to inhabit damaged worlds becomes pressing, and the notion of environmental justice, which emerged in the 1980s, is an attempt to respond to this situation. But this concept has been essentially thought around the notion of fair distribution of environmental risks among humans. Today, however, the ecological upheavals and destruction of refuge for living beings increasingly mark the end of risk-based management toward the recognition of sustainably damaged worlds and the obligation to adapt. Based on a critical analysis of academic literature, this article argues this shift to adaptation shows the limits of the normative approach of environmental justice and calls for complementary approaches to be proposed. A first move exists in literature to develop multispecies or socio-ecological justice by insisting on the importance of a relational approach to justice with other living species. Following this, the authors propose to go further by including Deweyan pragmatic approaches of inquiry in ecological justice issues. These inquiries are the processes led by publics who try to respond to their troubles. The authors defend that these processes allow them to think of justice with precariousness, in a situated and relational approach, as already being a means and not only an end to inhabiting damaged worlds. This leads them to propose a version of ecological justice enriched with four dimensions: epistemological, relational, temporal and responsibility.

Keywords ecological justice, inquiry, precariousness, damaged worlds, adaptation

The city of Fos-sur-Mer and the Gulf of Fos are home to one of the largest industrial port areas in France, with several energy, chemical, and steel industries that cause numerous forms of pollution and long term environmental degradation. Given this industrial activity, and despite environmental policies (including regulation, consulting bodies,

etc.), local residents have concerns about the impact of pollution. Some of these residents, who wish to neither leave the area nor see the factories close, have joined forces with a whole series of actors, human and nonhuman alike (researchers, doctors, trade unionists, but also lichens, petunias, sea urchins, and conger eels, among others) to undertake various processes of inquiry to better understand the impact of pollution on their health and environment.¹ And although these inquiries remain tenuous and offer no guaranteed outcomes in terms of pollution resolution, they seem to us to be significant as a way of being and engaging within this situation: we believe that these inquiry-based approaches have something to teach us about how to live in a just way with the trouble—that is to say, about possibilities to address justice issues in order to live in our damaged worlds today.

Among the approaches that deal with our cohabitations with or within the environment, environmental justice is one proposed framework. This notion was initially developed in a particular context—that of social movements in the United States in the 1980s against the overexposure to toxic products suffered by certain underprivileged minority groups. Based on an environmental risk perspective, the main dimension of environmental justice has been about equitable distribution, later supplemented by recognition and participation.² But the context has changed since the first demands for environmental justice, because of widespread environmental destruction and climate change leading to a strengthening of the global ecological crisis. And while the Gulf of Fos is an exacerbated example of an area especially affected by the consequences of our globalized economies, it is no longer an exception.³ Even if some places are more impacted than others, the toxic worlds now expand everywhere and climate change puts—at least partially—living beings on a common trajectory.⁴ Consequently, the question of punctual risk distribution or a distant problem of responsibility toward future generations has been replaced by how we can adapt ourselves to those damaged worlds, characterized by precariousness and uncertainty.⁵

Taking this situation seriously requires different approaches to rethinking our ways to live within those worlds. In particular, along with the development of various Anthropocene academic school of thought, there is a call to continue nurturing environmental

1. About the relations between human and nonhuman, see van Dooren, Kirksey, and Münster, “Multispecies Studies.” For more specific examples of these relationships in the Gulf of Fos, see, for example, Gramaglia and Dauphin, “Toucher la pollution industrielle”; Gramaglia and Mélard, “Looking for the Cosmopolitical Fish.”

2. Low and Gleeson, *Justice, Society and Nature*; Schlosberg, *Defining Environmental Justice*; Fol and Pflieger, “Environmental Justice in the US.”

3. The consequences of our globalized economies include numerous forms of pollution and degradation on both social and environmental aspects related to the changing social metabolism of industrial economies that can be understood as the appropriation, transformation, and disposal of materials and energy by society. See Christoff and Eckersley, *Globalization and the Environment*; Martinez-Alier et al., “Is There a Global Environmental Justice Movement?”

4. Murphy, “Alterlife and Decolonial Chemical Relations.”

5. The precariousness and uncertainty that mark our damaged worlds are the consequences of our globalized economies and the development of capitalism. See Shockley and Light, “Adapting to a Perilous Planet”; Tsing, *Mushroom at the End of the World*.

humanities.⁶ Among other things, this call invites us to update the concept of environmental justice or to come up with complementary approaches in the context of this shift to adaptation: in our damaged and changing worlds it is no longer only a matter of repairing injustices by relying on predefined “frames of justice” in a normative approach.⁷ We believe that considering current states of precariousness also invites us to pay attention to indeterminacy and all the potential for emergence that it offers.⁸ In this perspective, relying on actors’ initiatives to learn to live with their damaged territories could constitute a renewed way of approaching issues of environmental justice or a different and complementary starting point to the observation and denunciation of existing injustices.

The objective of this article is therefore to go beyond (while keeping the achievements of) the idea of environmental justice, to propose a situated and relational approach to ecological justice that takes precariousness into account. From this angle we explore the pragmatic proposal of the processes of inquiry implemented by groups of people who through their actions are trying to address the trouble of pollution and other forms of ecological destruction they are experiencing. In particular these inquiries can constitute a tangible outcome or a possible implementation mode of ecological justice as a means and not only an end to engaging in worlding or world making.

The proposal of this article is both humble and vital. It is humble because it is not purporting to rebuild the normative foundations of a theory of justice, but it is vital because, by being situated at the heart of the trouble of our damaged worlds, it participates in this need to find, in our experiences of life, just ways of being in and of committing to these worlds. The approach used is based on a critical analysis of the academic literature through a close, nonsystematic reading and is partly cultivated by abductive questioning stemming from the observation of the inquiries made in Fos-sur-Mer.⁹

Environmental Justice: The Origins and Evolution of a Concept

The application of the concept of justice in relation to environmental issues differs based on whether it is used by stakeholders on the ground or as a frame of thought for academic work.¹⁰ Initially the concept of environmental justice emerged in the 1980s in the United States within protest movements against the disproportionate impact of pollution on mainly poor ethnic minorities.¹¹ Some communities organized themselves to

6. Rose et al., “Thinking through the Environment”; Bonneuil and Fressoz, *L'évènement Anthropocène*; Charbonnier, “Généalogie de l'Anthropocène”; Rosignoli, Privitera, and Pappalardo, “Earth System at Risk.”

7. About the idea of “frame of justice,” see de Nanteuil, *Justice in the Workplace*.

8. Indetermination joins the uncertainty of our situations generated by modernity (uncertainty of the consequences of our human activities and their effects on the environment in connection with the complexity of socio-ecological systems) but offers a space of possibilities. This means that indeterminate worlds are not fixed and keep a potential for interaction. See Tsing, *Mushroom at the End of the World*.

9. Abduction refers to a form of “imaginative” reasoning built a posteriori to explain a phenomenon or an observation from certain facts perceived as surprising, which go against habit or against what was hitherto taken for granted. See Catellin, “L'abduction.”

10. Dirth, Biermann, and Kalfagianni, “What Do Researchers Mean When Talking about Justice?”

11. Bullard, “Solid Waste Sites”; Bullard and Wright, “Politics of Pollution.”

oppose the establishment of sources of nuisance, particularly industries, near their living environments. These protests aligned with demands for social justice and civil rights struggles against a backdrop of racial inequality through the demand for a fair distribution of environmental goods and harms, and they essentially centered on the concept of environmental risk to human communities. Following the political demands advanced by social movements, environmental justice was then institutionalized by the US federal government. At the time, environmental justice issues were considered through what was an essentially liberal approach of distributive justice that drew on the work of the philosopher John Rawls.¹²

In terms of distribution this approach—with a systematic focus on the geography of environmental inequalities—was not, however, unanimously accepted and the concept of environmental justice evolved into a more general criticism of the understanding of social justice. Based on the observation of social movements and the variety of demands relating to issues of democracy and recognition of minorities, some authors have shown the range of concerns in terms of justice that contrast with the liberal justice perspectives of Rawls.¹³ Accordingly, inspired by the work of Nancy Fraser and Iris Marion Young, David Schlosberg proposed a three-dimensional definition of environmental justice: the distribution of environmental goods and harms, cultural recognition, and political participation.¹⁴ He also raised the direct link between a lack of recognition and the decline of participation in the community, including at the political and institutional levels. Participation, through democratic and participatory decision-making procedures, then becomes the consequence and condition of environmental justice as a means to address both the problems of inequitable distribution and the conditions that undermine social recognition. This leads to a procedural environmental justice approach that counteracts the harmful effects of power relations and domination.¹⁵

Later Schlosberg extended his environmental justice framework to also include capabilities theory developed by Amartya Sen and Martha Nussbaum.¹⁶ Capabilities theory focuses on the extent to which people are able to do and to be what they choose in the context of a given society or to live the lives they consider to be valuable. The focus is then on the importance of individuals functioning within a base of minimal distribution of goods, social and political recognition, political participation, and other capabilities. However, from a political ecology perspective, Hanne Svarstad and Tor A. Benjaminsen see two shortcomings in how capabilities theory tends to be used in the environmental justice literature.¹⁷ First, there is a tendency to discuss capabilities in relation to homogenous

12. Fol and Pflieger, "Environmental Justice in the US"; Murdock, "History of Environmental Justice."

13. Fraser, "Social Justice in the Age of Identity Politics"; Deldrève, *Pour une sociologie*; Svarstad and Benjaminsen, "Reading Radical Environmental Justice."

14. Schlosberg, "Three Dimensions"; Schlosberg, "Reconceiving Environmental Justice"; Schlosberg, *Defining Environmental Justice*.

15. Svarstad and Benjaminsen, "Reading Radical Environmental Justice."

16. Schlosberg, *Defining Environmental Justice*.

17. Svarstad and Benjaminsen, "Reading Radical Environmental Justice."

communities, ignoring diversities within groups. Second, in a capabilities approach, justice becomes a matter of well-being of individuals and communities, with a lack of focus on responsibility that may render invisible the actors and structures behind injustice.

Following the denunciation of unequal power dynamics, other authors also insist on the need to recognize epistemic pluralism and an ecology of knowledge that acknowledges different types of knowledge and practices, scientific or not.¹⁸ In particular Marie Gaille looks at the conditions of production of reliable knowledge on environmental risks and considers the epistemic dimension as an integral component of environmental justice.¹⁹ She notes that environmental and health risks are understood by actors according to established knowledge (lay or expert) as well as the resulting ignorance due to lack of knowledge and undone science.²⁰ This raises the question of knowing what types of knowledge are recognized, according to which criteria, and who participates in their production. Because people affected by environmental interventions are often faced with knowledge production that turns out to be contrary to their interests and values, they should be able to subjectively perceive, evaluate, and narrate their situation and engage in their own critical knowledge production.²¹

Thus the concept of environmental justice as it has developed from this context is primarily about humans and their ways of managing environmental risks. Environmental justice is essential and makes it possible to denounce situations of injustice. But given the many environmental upheavals and destruction at work today, leading to an unprecedented level of precariousness for our human and nonhuman societies, we argue that the denunciation of injustices, as well as an overarching external norm of predetermined frames of justice, will not suffice to find ways to live in the trouble of our damaged worlds. Other ideas—complementary even if tenuous—are needed that also take into account nonhumans and the current call for adaptation.

From Risk to Adaptation: For an Ecological Justice in Our Damaged Worlds

The version of environmental justice we have just presented is part of a conception of environmental problems based on risk management within human communities, in line with the approach of a risk society as presented by Ulrich Beck.²² But this risk management approach frames a kind of institutional reality that does not always correspond to the environment experienced by the people concerned.²³ And while the inequality-based approach has remained, the context has changed since the emergence of the first

18. Santos, *Epistemologies of the South*.

19. Gaille, "La question du savoir." Regarding the need to recognize a pluralism of knowledge in agroecology from an environmental justice perspective, see Coolsaet, "Farming Justice."

20. Frickel et al., "Undone Science"; McGoey, "Logic of Strategic Ignorance."

21. Svarstad and Benjaminsen, "Reading Radical Environmental Justice."

22. Beck, *Risk Society*.

23. Boltanski, "Remettre en cause la réalité."

environmental justice movements in the 1980s. Nowadays the task of identifying strategies to build agency is made more difficult because of the heightened levels of risk.²⁴ Moreover, reflections on the Anthropocene show that the many current crises mark both the end of a “one-off” risk management approach that authorizes the implementation of specific procedures to regulate such risks, and a switch to a global risk approach.²⁵ This global risk involves climate change and the destruction of ecosystems, including biodiversity loss, soil erosion, pollution, and, more generally, the destruction of places and times of refuge for living creatures.²⁶

The consequence of this global risk, a source of indeterminacy and vulnerability, would be that it “undermines the foundations of a rationality of precaution and compensation measures.”²⁷ As a result, we are now witnessing an unprecedented emphasis on the need for adaptation as a new conceptual, ethical, and political watchword.²⁸ However, adaptation has different meanings that are at the very least ambivalent depending on the approach. In the face of climate change, adaptation is sometimes presented as the vector of a transformative potential, requiring vulnerable populations to have the capacity to take back control and political power to shape climate adaptation decisions in a just manner (by relying mainly on a procedural justice approach).²⁹

But if this proposal is very well intentioned, it is of little help when a population is vulnerable partly because it does not have the capacity to take control and has little if any political power. Imagining that such a population would somehow become capable of fulfilling this requirement shows the lack of practicability of this demand for adaptation. On the other hand, given the proliferation of toxic worlds even in some remote places, envisioning cleanup and full reparation is no longer an option.³⁰ In that context passive adaptation seems, in fact, to be a normative injunction following the acknowledgment of our powerlessness.³¹ This situation is due in particular to the difficulties of expertise and scientific uncertainties and the complexity of the conflicts of interest involved.³² The strategy promoted by certain states and industries in a neoliberal governmentality tends to transfer responsibility to individuals, who must adapt their behavior

24. Mulligan, “Towards a More Grounded and Dynamic Sociology.”

25. Charbonnier, “Généalogie de l’Anthropocène.”

26. Haraway, “Anthropocene, Capitalocene, Plantationocene, Chthulucene.”

27. Charbonnier, “Généalogie de l’Anthropocène,” 318–19 (our translation).

28. Shockley and Light, “Adapting to a Perilous Planet.”

29. Deubelli and Mechler, “Perspectives on Transformational Change”; Holland, “Procedural Justice in Local Climate Adaptation.”

30. Papadopoulos, “Chemicals, Ecology, and Reparative Justice.” Contamination even reaches mountain lakes that are generally considered to be untouched by human industrial activity. See Machate et al., “Complex Chemical Cocktail.”

31. Stiegler, “*Il faut s’adapter*.”

32. Holland, “Procedural Justice in Local Climate Adaptation”; Boudia and Jas, *Gouverner un monde toxique*.

and daily activities to the new toxic conditions.³³ This involves, for instance, using specific tools to measure pollution or adapting outdoor sporting activities to weather conditions and air pollution.³⁴

Faced with global change and toxic worlds, this call to adapt has consequences for the way we understand issues of justice in current times. However, we argue that the postulate of the two sides of adaptation—that is to say, a resumption of control over a situation or an admission of powerlessness—is not of much help in learning to live in our damaged worlds today because it presents us with impossible situations. On the contrary, we need a humbler, more subtle approach to adaptation in order to get to the heart of the trouble of our damaged worlds, an in-between position that creates distance from the great narratives of control or powerlessness in order to think about justice by staying with living beings and their vulnerabilities.³⁵ To do this we must stand by them, thinking with them and with the precariousness of their situations:

Precarity is the condition of being vulnerable to others. Unpredictable encounters transform us; we are not in control, even of ourselves. Unable to rely on a stable structure of community, we are thrown into shifting assemblages, which remake us as well as our others. We can't rely on the status quo; everything is in flux, including our ability to survive. Thinking through precarity changes social analysis. A precarious world is a world without teleology. Indeterminacy, the unplanned nature of time, is frightening, but thinking through precarity makes it evident that indeterminacy also makes life possible.³⁶

In this context, adaptation no longer consists in overcoming precariousness by leaning on logic of procedural justice, nor in imposing precariousness by insisting on our passive submission to the conditions of damaged environments. Rather, from a Deweyan pragmatic perspective, adaptation is an ever-moving process, a complex transaction that includes undergoing and acting where living beings and their environments act on each other.³⁷ To think with precarity is not, however, an easy task, and Anna Tsing herself recognizes the difficulty of considering justice in a precarious world where progress is no longer our main point of reference.³⁸

In the context of this move to adaptation, thinking about justice with precariousness leads us to widen the scope of our focus in order to do the necessary work of denouncing injustices (to say what is in an environmental justice approach), while also taking interest in and paying attention to the efforts made by inhabitants to live with

33. Fressoz, “S’adapter au climat”; Hache, “La responsabilité.”

34. Boudia and Jas, *Gouverner un monde toxique*.

35. We are interested in the notion of vulnerability as it has been (re)visited in some feminist works in order to disentangle vulnerability from its association with passivity, victimization, and fragility. See Butler, Gambetti, and Sabsay, *Vulnerability in Resistance*.

36. Tsing, *Mushroom at the End of the World*.

37. Stiegler, “Il faut s’adapter”; Zimmermann, “Capabilités et développement de l’individualité.”

38. Tsing, *Mushroom at the End of the World*.

vulnerabilities (to say what is being done with our ever-consubstantial vulnerabilities for a form of justice that is also inspired by the theories of care). This means leaving behind a single normative and overarching approach to justice in order to develop everyday material practices of seeking and making justice from and not for territories, at the very level of living beings and their arts of doing and living in the interstices and on the margins, often outside of direct opposition.³⁹ It is not about maintaining the dualism of justice and injustice or defining justice from existing injustices, but rather reaffirming that justice is also built in histories that are being made and that there is a vital need to take part in them and to respond in order to create possibilities of becoming-with. We must then learn and work for justice to also become “the means and not just the end toward partial healing and flourishing on a damaged planet.”⁴⁰

To do this we propose an ecological justice approach. Other authors before us have chosen the same qualifier, mainly to move away from an anthropocentric approach to justice and to include nonhumans, where the term *ecological* emphasizes the complexities of the natural world and the fact that humans are part of it and not separate from it.⁴¹ Authors vary, however, on how to include these other living beings within the scope of justice and the extent of recognition they should be afforded. For us ecological justice is not only about undertaking efforts to widen the community of justice (via justice for nonhumans) or including a relational ontology dimension between humans and nonhumans (multispecies or socio-ecological justice), but also about taking part in the world or to engage in worlding as an embodied and active open process for crafting common forms of life.⁴² As Palmer and Hunter point out, this world making “is not simply a result of our existence in or passive encounter with particular environments, circumstances, events or places. Worlding is informed by our turning of attention to a certain experience, place or encounter and our active engagement with the materiality and context in which events and interactions occur.”⁴³ Through adaptation understood as a relentless “feeling-acting”⁴⁴ process, a particular “world” emerges for living beings through their engagement with a number of interrelated phenomena where “natures, cultures, subjects and objects do not pre-exist their intertwined worldings.”⁴⁵ This act of attending to the world is based on our attachments and creates an art of becoming in relation to other beings, whether they are in the past/present/future and human or nonhuman.

The two approaches of environmental and ecological justice differ in their aim and their conception of the environment: environmental justice is mainly a normative

39. Lyons, “Chemical Warfare in Colombia.”

40. Haraway, “Staying with the Trouble,” 103.

41. Low and Gleeson, *Justice, Society, and Nature*; Schlosberg, *Defining Environmental Justice*; Bosselmann, *Principle of Sustainability*.

42. Papadopoulos, “Worlding Justice/Commoning Matter.” About multispecies justice, see Celermajer et al., “Multispecies Justice”; about socio-ecological justice, see Yaka, “Rethinking Justice”; Yaka, “Justice as Relationality.”

43. Palmer and Hunter, “Worlding.”

44. Lyons, “Chemical Warfare in Colombia,” 422.

45. Haraway, *Staying with the Trouble*, 13.

approach centered on inequalities with a conception of the environment essentially external to humans, while ecological justice is a way of being involved that creates an art of becoming and allows us to engage in worlding with our vulnerabilities. The environmental justice approach remains necessary, but its framework is too closely linked to a risk society with an administrative approach framing a reality. Faced with our damaged worlds, the challenge is also to be able to continue to create worlds.⁴⁶ In that sense ecological justice encompasses the world-sustaining process and the becoming of diverse forms of life.

The proposal is tenuous and hangs by a thread. And considering justice as already being a means and not only an end is partly speculation. But if we embrace this worlding within the field of justice, it is not only because it is an ethical or moral position; in a more imperative way in terms of the individual and collective levels, it is also to reaffirm the irreducibility of our paths or quests for a justice within our precarious and vulnerable worlds. We believe that if we were to separate our proposal from the field of justice we would deprive ourselves of a vital and indispensable force. The shift to adaptation for justice has nothing to do with any utopia. People stick to what they can do, leaning on their attachments to redo and reclaim possibilities of living in their local territories. By putting the quest at the heart of the idea of justice we join the call for “multiple forms of local, low resolution, uneventful, frustrated, desirous, ethical, appropriated and incommensurate forms of justice given a permanently polluted world.”⁴⁷ To do so, we propose developing a specific modality, that of inquiry, as a possible way to establish or “instaurate” ecological justice.⁴⁸

Instauration of Ecological Justice through Inquiry

If the work of denouncing injustices is therefore necessary but insufficient, what is ecological justice composed of and what could fuel it? As we have seen, ensuring that ecological justice becomes a means and not just the end to living in our damaged worlds leads us to consider the possibilities of generative justice of our worlds that are still in the making. The challenge is to continue to think about our damaged worlds as not definitively set in stone or determined but rather as that with which we can interact and where there is the possibility of cocreation. Thus, for our proposal of ecological justice, the aim is to leverage the vital momentum and impulses that begin with individuals and loose collectives, with all their vulnerabilities, to participate in this worlding.

Our observations of the approaches taken by collectives in the Fos-sur-Mer area offer certain avenues for thinking about the instauration or implementation process of

46. We refer here to the distinction between “world” and “reality” as developed by Boltanski, “Remettre en cause la réalité.”

47. Liboiron, Tironi, and Calvillo, “Toxic Politics,” 343.

48. The notion of *instauration* is a kind of creative establishment referring to Étienne Souriau’s philosophical work. For more information, see Lawlor, “Note on the Relation.”

this ecological justice. The approach used by government agencies or industrial actors to manage pollution produced by this industrial port area remains essentially that of an institutionalized risk management approach, thus framing a certain reality that is out of step with the experience that the inhabitants have of their polluted world. Given this discrepancy between institutionalized reality and the world as it is experienced locally, some residents and elected officials have attempted to better understand the impact of the pollution on the region. Their efforts constituted the starting point for an inquiry-based approach. They collected initial data, including blood samples and samples of food produced in the region, and asked scientists to assist them in their efforts. As an extension of these initiatives, an eco-citizen institute (Institut Écociroyen pour la Connaissance des Pollutions, or IECP) was created in 2010 to monitor the effects of pollution on the air, soil, and water as well as human health on a regional scale over the long term. Since then they have developed observations of environmental quality with the help of nonhuman bioindicators (lichens, petunias, sea urchins, etc.), and partnerships with social science researchers and artists. Through these actions, the actors are striving to produce knowledge about pollution as well as the means to respond to the issues they face and so take part in the understanding and creation of the world in which they live and on which they depend.

These protean inquiries, carried out by loose collectives of people and entities concerned by the impact of pollution, echo pragmatic proposals, especially in relation to the way John Dewey formalized the concept of inquiry.⁴⁹ For Dewey, inquiry is the active phase—undertaken by individuals concerned by a problematic situation—of adapting, adjusting, or reconstructing their situation into public problems in order to construct a public opinion and reestablish the continuous framing of experience in a world always in the making. Dewey thus takes up the method of inquiry traditionally reserved for scientists and extends it to society. For Dewey inquiry represents more than a method: it is also a way of doing things (based on collaborations and collective intelligence) and a way of life to develop a free and democratic society.⁵⁰

This idea of inquiry allows ecological justice to be enriched, especially with regard to the procedural participatory dimension of environmental justice. In fields such as political ecology or development studies, participation has been partly criticized as a process often implying a top-down approach without much influence, and Svarstad and Benjaminsen regret that these findings are not reflected in the environmental justice literature.⁵¹ But to inquire means more than to participate: inquiry involves a reconstruction, a transformation, or a transaction of the world, given that it does not record “what is real in a neutral and detached way” but participates in its creation.⁵² Inquiry thus goes

49. Dewey, *Public and Its Problems*.

50. Zask, “L’enquête sociale comme inter-objectivation”; Zask, “L’enquête et ses obstacles.”

51. Cleaver, “Paradoxes of Participation”; Berger and Charles, “Persona non grata”; Svarstad and Benjaminsen, “Reading Radical Environmental Justice.”

52. Zask, “L’enquête sociale comme inter-objectivation,” 141 (our translation). See also Zask, “Anthropologie de l’expérience.”

beyond the procedural conditions of participation, allowing the cultivation of what philosophers Vinciane Despret and Isabelle Stengers call “trust in the possibility that a problem, once freed from the generalities that take it hostage, once it is given a chance, might spread out to unexpected dimensions, becoming something that obliged one to think, that is, something that makes one go from refusal to creation.”⁵³ In terms of justice, if inquiry does not make it possible to reclaim “power over” with regard to power dynamics or our situations, it is still a way for those who undertake the process to equip themselves with the means of criticism to push back against the realities imposed upon them, while offering precious resources for the art of worlding in precarity.⁵⁴ Furthermore the capabilities approach in environmental justice tends to concentrate narrowly on negative effects on the well-being of victimized groups.⁵⁵ But our proposal of justice as a way of worlding through inquiry is situated below Sen’s concept of capability.⁵⁶ That is to say, it is situated even before the freedom to choose from the many ways of being and acting potentially available to a person to ensure his well-being. In our approach thinking with well-being, freedoms, and economics matters less than the process of our becoming with precariousness and attachments. It is already within this very construction of inquiry that justice is established as a becoming and not as a capability that should be ensured. Inquiry thus allows the establishment of our situated and relational approach to ecological justice, producing elements that are indispensable to this worlding—namely, the creation of a new epistemology, the weaving of relationships, and the art of inheritance and responsibility.

Inquiry as a New Epistemology for Ecological Justice

The most obvious contribution of inquiry is knowledge production. However, with the idea of inquiry the aim is no longer to consider epistemic issues simply as yet another dimension to be taken into account in defining ecological justice. Rather it is about paying attention to the very processes of knowledge production, being careful with the consequences of the knowledge produced, and paying attention to the multiple alliances, both human and nonhuman, that are necessary for these processes of inquiry. Thus the goal is not limited to access to information, recognition of a pluralism of knowledge, or even narrow, procedural participation in knowledge production on environmental issues; inquiry also recognizes the dynamic, collective, and situated dimension of all knowledge production.

The consequence of this is that inquiry is not limited to the simple production of data to fill knowledge gaps. First, facts observed by analyses always overflow with meaning, so inquiry may offer more insights than just the answers to the questions initially

53. Despret and Stengers, *Les faiseuses d'histoires*, 63 (our translation).

54. About the critical dimension, see Hecquet, “Construction d’une demande de justice écologique.”

55. Svarstad and Benjaminsen, “Reading Radical Environmental Justice.”

56. This is notwithstanding the connections made by Bénédicte Zimmermann between Dewey’s pragmatism and Sen’s capabilities. See Zimmermann, “Capacités et développement de l’individualité.”

asked.⁵⁷ Second, a strictly enumerative practice of data production, even for the purpose of demanding justice, would also present certain risks, such as perpetuating the hierarchical power structures linked to knowledge production or preventing imaginative approaches to the questions asked.⁵⁸ The challenge is therefore to move from epistemic justice that recognizes a diversity of knowledge to a new epistemology that instaurates ecological justice, highlighting the very processes of knowledge production when we experience a trouble. It is thus a matter, within the same movement, of opening up to everyone the capacity to take part in the inquiry process, of opening up the nature of the knowledge produced and the processes by which it is produced, and of admitting that knowledge is dependent on places, times, and relationships that produce it.⁵⁹

For Dewey knowledge is already a mode of participation.⁶⁰ But approaching this aspect of knowledge production through the prism of collective inquiry allows us to develop a better “apprehension” of our worlds, such as that to which Nicholas Shapiro, Nasser Zakariya, and Jody Roberts invite us,⁶¹ by reimagining the appropriate questions to ask ourselves in order to develop other possibilities of more capacious ways of living, in which art also plays a role.⁶² With this idea of apprehension there is a need for speculation that neither ignores the facts nor gives them authority, in order to reimagine the initial questions to be asked and thus activate other possibilities for common living forms.⁶³

Inquiries That Weave Partial Relationships to Reconfigure Our Worlds

Another contribution of inquiry to ecological justice is that it allows relationships to be woven in ways that lead to forms of reconfiguration of our worlds. Several works on ecological justice have already emphasized the need to go beyond the old opposition between justice for humans and justice for nature in order to introduce a relational ontology between humans and nonhumans within justice or as an issue in its own right.⁶⁴ As a result, more than the participation of actors or the recognition of nonhumans, the issue is about the need to recognize the importance of these relationships as part of the composition of our worlds.

However, we would be remiss to consider these relationships a given and to limit the issue to their recognition. Consequently, because these relationships are not automatically preexisting, we must build them. Inquiry offers a valuable resource for doing so. For Dewey inquiry allows for the constitution of plural and heterogeneous publics,

57. Hendrickx, “Chemical Traces”; Ottinger, “Constructing Empowerment.”

58. Shapiro, Zakariya, and Roberts, “Wary Alliance.”

59. Ottinger and Cohen, “Environmentally Just Transformations”; Ottinger, “Changing Knowledge.”

60. Dewey, *Democracy and Education*, cited in Stiegler, “*Il faut s’adapter*,” 107.

61. Shapiro, Zakariya, and Roberts, “Wary Alliance.”

62. Fourmentraux, “Zone critique”; Hahn, “Artistic Imaginations of Climate Change.”

63. Debaise and Stengers, “L’insistance des possibles.”

64. Yaka, “Rethinking Justice”; Yaka, “Justice as Relationality”; Celermajer et al., “Multispecies Justice.”

which do not exist beforehand in opposition but which instead are formed by protean knowledge production following the trouble that they must define together.⁶⁵ But while the term *public* is appropriate to designate the human communities active in inquiries, the latter produce what can be described as partial relationships—partial because such relationships are always more or less loose and do not lead to the formation of tightly connected communities—as soon as one also takes into account the nonhumans from the angle of ecological justice.⁶⁶ This is the case in the Gulf of Fos: the inquiries contributed to this creation of partial relationships between local residents, sailors and fishermen, petunias, researchers, lawyers, lichens, doctors, fish, trade unionists, gardeners, and more. And in this respect, we should mention the willingness of the Fos-sur-Mer Institut Écociroyen to promote its dependence on its inquiry partners in order to produce knowledge that is relevant to the issues that arise in the region.

Additionally, these partial relationships or these heterogeneous gatherings of actors (including living nonhumans) that form through the inquiries consist of something more than simply bringing different entities into contact. The entanglements created through the inquiries reflect the reconfiguration of our situations through intra-action.⁶⁷ In contrast to the usual interaction, the notion of intra-action recognizes that there are no separately predeterminate individual entities that interact with one another; rather they emerge from/through their intra-action. This notion has implications for thinking about questions of justice not only because intra-action entails a radically different understanding of causality but, more specifically in our ecological justice perspective, because it participates in the process of world making.⁶⁸ Thus, in line with Haraway's invitation to "make kin" with "myriad kinds" to support the practices of becoming-with, inquiries also cultivate ecological justice through the weaving of these partial relationships and their entanglements or intra-action that participate in worlding.⁶⁹

Inquiries That Allow the Threads of History to Be Picked Up Through Inheritances and Responsibility

In connection with this new epistemology and the relationships that are being forged, inquiries also allow us to thicken our relationship with time through an art of inheritance and responsibility in order to pick up the threads of history. Modern Western societies have adopted a linear vision of progress, and the initial environmental warning signs were first accompanied by the development of consideration for future generations. The ensuing rise of urgency and repeated crises then plunged us into presentism, in particular with the Anthropocene concept that "dramatizes to the extreme our apprehension of

65. Dewey, *Public and Its Problems*.

66. By insisting on the partial aspect of these relationships, we refer here to a series of informal discussions with Benedikte Zitouni.

67. Barad, "Quantum Entanglements and Hauntological Relations."

68. About the understanding of causality, see Barad, "No Small Matter."

69. Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene," 159.

the present by designating it as something unheard of, on the scale of human history, but also of the history of life.”⁷⁰ But like Benedikte Zitouni and Valérie Pihet, we consider that “linear past-present-futures are problematic for they lock up present potential in deterministic and fatalist patterning.”⁷¹ And the issue of worlding from our ecological justice perspective means being able to continue picking up the intertwined threads of our non-linear histories. Through their process-based dimensions, which occur over a period of time, inquiries take part in this rearticulation of time to continue making history within a “thick present,” which allows, beyond the shock of presentism and urgency, multiple interconnections between past, present, and future.⁷²

Therefore, our proposal for ecological justice doesn’t specifically focus on our responsibility toward future generations. By aiming to respond to a trouble, inquiry also allows us to push back against a past history of industrial development that would impose itself on us as given and inevitable. But at the same time inquiry is to take seriously the fact that there can be no *tabula rasa* fantasies: there is climate change, pollutants, wastelands, leftovers, and industrial premises, all of which stick to the history of territories. For in the face of damaged worlds we must learn, as Derrida reminds us, that “inheritance is never a *given*—it is always a task.”⁷³ And so inquiry participates in this noninnocent work of learning to inherit our damaged worlds in such a way that adaptation is not something to which we must resign ourselves but rather something that maintains transformative power.⁷⁴

Accordingly, learning to inherit also means developing a form of responsibility toward what one inherits to cultivate a generative justice or a “justice-to-come.”⁷⁵ For if responsibility generally refers to the act of having to answer for one’s actions (in the legal sense of being accused of wrongdoing, especially by pointing out the structural responsibilities of and wrongdoing committed by certain actors from an environmental justice standpoint), it is also a matter of the possibility for the actors to account for their lived situation and to respond by offering not explanations but meaningful responses.⁷⁶

70. Charbonnier, “L’ambition démocratique à l’âge de l’Anthropocène,” 457 (our translation).

71. Zitouni and Pihet, “Shuffling Times,” 40.

72. Haraway, *Staying with the Trouble*; Zitouni and Pihet, “Shuffling Times”; Haraway, “Staying with the Trouble.”

73. Derrida, *Spectres de Marx*, 94 (our translation).

74. Despret, “En finir avec l’innocence.” In this regard, questioning the importance of a noninnocent attitude to unfolding our problematic situations, Despret explains,

Innocence would be to assert that we do not choose our ancestors, whereas it is not a question of choosing or not choosing—it is a question of inheriting, in other words, of building the inheritance in such a way that it makes us capable of responding to, and answering for, what we inherit. Because if innocence requires just taking everything, or rejecting everything, then the inheritance no longer has any transformative power. That is where the issue lies. (38, our translation)

75. Barad, “Quantum Entanglements and Hauntological Relations.”

76. Van Dooren, Kirksey, and Münster, “Multispecies Studies.”

The “response-ability” here with regard to inquiry is thus that of a relationship, of an iterative (re)opening or the crafting of responses that will never be final but only “within sight,” because in such a multifaceted and connected world “no answers will make one feel good for long.”⁷⁷ Inquiry thus allows us, through our arts of inheritance and crafting responses, to pick up the threads of history to learn to live in our damaged worlds in a thick present and to build an ecological justice with precariousness.

Conclusion

Because the context has changed since the first environmental demands for justice, especially with the shift from a risk society to an adaptation-focused society, this leads us to resume the work necessary to consider the possibilities of living in our damaged worlds today. In those worlds, which are both precarious and vulnerable, there can be no complete redemption, only reconfigurations that will not completely erase the traces left in our bodies. But that does not take away from the need to pursue the necessary worlding. On the contrary, we defend the idea that continuing to create worlds in this context becomes an issue of justice. The objective of this article is therefore to go beyond the idea of environmental justice, to propose an approach to ecological justice in a situated and relational perspective of our relationship to the world that takes precariousness into account. To do this we support that the processes of inquiry constitute a possible mode of worlding and the instauration of ecological justice by contributing to developing a new epistemology, to weaving partial relationships, and to picking up the threads of history within a present made thick through the arts of inheritance and responsibility.

While some of the authors with whom we have thought in this article have already shown the importance of these epistemological, relational, temporal, and responsibility issues, the originality of our proposal lies in highlighting the importance of the very process of inquiry, given that it is through inquiry that these elements are generated. We thus believe it is important to emphasize the necessity of the “path toward” in our precarious worlds, knowing that the process of undertaking inquiries and engaging in worlding are one and the same. In the context of our damaged worlds the very possibility of inquiry consequently becomes a matter of justice. And this drive to integrate inquiry into justice results in the support of all inquiry initiatives vis-à-vis governance approaches that could offer procedures or predefined responses. More specifically, while environmental justice can be presented as an operational framework for action within a risk-based governance approach, with adaptation we must now come up with a new framework that can make space for and recognize all inquiry-based approaches that go beyond simple procedural participation or consultation.

Our proposal for ecological justice is based on observations made in the field—on what is happening in our damaged, precarious, vulnerable worlds. To circle back to the Gulf of Fos, certain local residents of this region—through their inquiries undertaken

77. Haraway, *When Species Meet*, 41. About the idea of “response-ability,” see Haraway, *Staying with the Trouble*. The idea of iterative (re)opening is from Barad, “Quantum Entanglements and Hauntological Relations.”

in partial relationship with a multitude of other human and nonhuman actors—take part in their world by co-constructing it. In this way, the inhabitants we met in our ethnographic research are responsible (or response-able): they keep responding to the trouble of pollution by proposing a region with more depth as well as a “thicker” history. Above all, through the processes of inquiries that reflect an experience of the world and its trouble, we can observe attempts that take part in terraforming.⁷⁸ In other words, people are striving to support the region by keeping it alive and responding instead of adopting a discourse that would expeditiously set the situation in stone by writing it off once and for all as a region sacrificed to industrial economic development. By accounting for these inquiries and by acknowledging the importance of what they produce through their telling (in this respect, the contribution of researchers or artists and storytellers in formulating these narratives for ecological justice could constitute new avenues to explore), we want to propose the possibility of an ecological justice for the worlds now being made. This involves learning to be alive today, recomposing the present (by inheriting our past and cultivating our future), and weaving multiple relationships between humans and nonhumans, regardless of how fragile and derisory they may seem.

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78. Haraway, *Staying with the Trouble*.

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